

Accounting Units 1 & 2

Chapter 18 Evaluating performance

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Chapter 18 Evaluating performance — 18A Analysis and interpretation; assessing profitability

Theory

The accounting reports built in the earlier chapters — the **Income Statement**, the **Balance Sheet** and the **Cash Flow Statement** — record what a business earned, owns, owes and did with its cash. But a report on its own does not say whether the business performed **well**. A net profit of \$55 000 might be an excellent result for one business and a poor one for another; the figure alone cannot tell you. Turning those raw figures into a judgement about performance is the work of **analysis and interpretation**, the subject of this chapter.

Analysis and interpretation are two distinct steps:

- **Analysis** is the **calculation** stage — working out **financial indicators** (ratios and percentages) that relate one report figure to another. Relating net profit to net sales, to assets or to the owner's investment turns an isolated dollar figure into a **rate** that can be compared.
- **Interpretation** is the **explanation** stage — reading what an indicator means, deciding whether performance has improved or worsened, working out **why**, and recommending what the business should do. A ratio that is merely calculated but not interpreted tells the owner nothing.

This section frames the whole chapter. It sets out the **process** used to analyse and interpret performance, explains what **profitability** means and how it is measured, previews the **profitability indicators** developed in 18B–18C (and the extension technique of vertical analysis in 18D), distinguishes **financial** from **non-financial** information, and sets out the **limitations** of ratio analysis so that the indicators are used with proper caution.

The analysis and interpretation process. Whichever indicator is being examined, good analysis follows the same five steps:

Step	What the owner does
1. Calculate	Work out the relevant financial indicator(s) from the reports.
2. Compare	Measure the indicator against a benchmark — the same business over time (a <i>trend</i>), the budget , a similar business , or an industry average .
3. Interpret	Decide whether the indicator has improved or deteriorated , and by how much.
4. Identify causes	Explain why it changed, drawing on financial and non-financial information.
5. Recommend	Suggest a course of action or decision that responds to what the analysis has shown.

The pivot of the process is **Step 2**: an indicator means nothing until it is **compared**. A Net Profit Margin of 10.0% is neither “good” nor “bad” in isolation — it becomes meaningful only when set beside the same business's 12.0% a year earlier, its budgeted 11.0%, or a rival's 8.0%. Comparisons must always be made between **like and like** (the qualitative characteristic of **comparability**), or the conclusion drawn will be unsound.

What “profitability” means. **Profitability** is a business's ability to **earn profit relative to a base** — it measures *how hard the business's resources are working to produce profit*, not simply *how many dollars of profit were made*. This is a crucial distinction:

- **Profit** is an absolute dollar figure (net profit \$55 000).
- **Profitability** relates that profit to something, so that businesses of different sizes, or the same business in different years, can be compared fairly.

Profitability is judged relative to **three bases**, and there is a family of indicators for each:

- **Profit relative to sales** — how many cents of each sales dollar the business keeps as profit (the **Gross Profit Margin** and **Net Profit Margin**).
- **Profit relative to assets** — how much profit the business earns from every dollar invested in the assets it controls (the **Return on Assets**).
- **Profit relative to the owner's investment** — how much profit the business earns for every dollar the **owner** has put in (the **Return on Owner's Investment**).

Because each base answers a different question, a full picture of profitability needs all three. A business can keep a healthy margin on its sales yet earn a poor return on a bloated asset base, or vice versa.

Worked model — the five-step process. Marland Living is a trading business. Its Net Profit Margin (**net profit ÷ net sales × 100**) is calculated for two years:

- **2025:** net sales \$500 000, net profit \$60 000 → $\text{NPM} = (\$60\,000 \div \$500\,000) \times 100 = \mathbf{12.0\%}$.
- **2026:** net sales \$550 000, net profit \$55 000 → $\text{NPM} = (\$55\,000 \div \$550\,000) \times 100 = \mathbf{10.0\%}$.

Compare (over time): net sales **rose 10.0%** $((\$550\,000 - \$500\,000) \div \$500\,000)$, yet net profit **fell 8.3%** $((\$55\,000 - \$60\,000) \div \$60\,000)$ and the NPM slipped **2.0 percentage points**, from 12.0% to 10.0%. *Interpret:* profitability has **deteriorated** — the business is keeping fewer cents of profit in each sales dollar even though it sold more. *Identify causes:* because sales grew but profit did not, the business's **expenses have grown faster than its sales**; the 2026 gap between the Gross Profit Margin of 36.0% $((\$198\,000 \div \$550\,000) \times 100)$ and the NPM of 10.0% shows that other expenses now absorb 26.0% of every sales dollar $(\$143\,000 \div \$550\,000)$. *Recommend:* the owner should review and control operating expenses (and check selling prices), then re-test the margin next period.

Assessing profitability across the three bases. Relating the same 2026 net profit of \$55 000 to each base gives a rounded view of how profitable Marland Living was. Using average total assets of \$500 000 and average owner's capital of \$250 000:

Marland Living —
profitability, 2026

	Relates profit to	Calculation	Result
Gross Profit Margin	Sales (gross)	$(\$198\,000 \div \$550\,000) \times 100$	36.0%
Net Profit Margin	Sales (net)	$(\$55\,000 \div \$550\,000) \times 100$	10.0%
Return on Assets	Assets	$(\$55\,000 \div \$500\,000) \times 100$	11.0%
Return on Owner's Investment	Owner's investment	$(\$55\,000 \div \$250\,000) \times 100$	22.0%

Read together, these say that Marland Living keeps **10 cents of net profit in every sales dollar**, earns **11 cents of profit on every dollar of assets** it controls, and returns **22 cents to the owner for every dollar the owner invested**. (The return to the owner exceeds the return on assets because part of the assets is funded by borrowings — a link explored in 18B.)

The tools for assessing profitability — an overview. This chapter builds the profitability indicators in stages. The table below maps each one to the base it uses and to the section that develops it, so the rest of the chapter can be read as a set of related tools rather than a list of formulas:

Profitability indicator	Relates	to	Expressed as	Developed in
Return on Owner's Investment	net profit	average owner's capital	percentage	18B
Return on Assets	net profit	average total assets	percentage	18B
Net Profit Margin	net profit	net sales	percentage	18C

Profitability indicator	Relates	to	Expressed as	Developed in
Gross Profit Margin	gross profit	net sales	percentage	18C
Asset Turnover	net sales	average total assets	times	18C
Vertical analysis of the Income Statement (<i>extension — not assessed</i>)	each item	net sales	percentage	18D

The **Asset Turnover** is not itself a profit measure — it reports how productively assets generate **sales** — but it is included here because it is one of the two drivers of the Return on Assets, and because 18C reads it alongside the margins. **Vertical analysis** is listed for completeness because 18D builds directly on the margins, but it is **not** one of the financial indicators named in the Units 1 & 2 study design: it is **extension** material and is not assessed in the graded topic tests or practice examinations. **Liquidity** — the separate question of whether a business can pay its debts as they fall due — is assessed by a different family of indicators (the Working Capital and Quick Asset Ratios) covered in 18E–18F; this chapter’s opening focus is profitability.

Financial versus non-financial information. The indicators above are all **financial information** — they are built entirely from **dollar figures** in the reports. Financial information tells the owner *that* profitability has changed, but often not *why*. To interpret the indicators, and to make good decisions, the owner also needs **non-financial information** — relevant information that is **not expressed in dollars**, such as:

- the **number of customers**, or **sales volume in units**, and the business’s **market share**;
- **customer satisfaction** and the number of **complaints** or repeat customers;
- **staff satisfaction**, skills and turnover;
- **competitor activity** — a new rival opening nearby, or a competitor’s price cut;
- broader **economic conditions** (interest rates, consumer confidence); and
- the business’s **environmental and social** impact and reputation.

Non-financial information **explains** the financial indicators — a falling Net Profit Margin makes sense once you learn a new competitor opened nearby and forced a round of discounting — and it **informs decisions** that a ratio cannot make on its own, such as whether to invest in staff training or improve after-sales service.

The limitations of ratio analysis. Financial indicators are powerful, but they must be used with an understanding of what they **cannot** do:

- **A ratio is meaningless in isolation.** It carries information only when **compared** with a valid benchmark, and comparisons must be **like with like** (comparability).
- **Ratios are historical.** They are built from **past** reports and describe what *has* happened; they do not, on their own, predict the future.
- **Ratios are only as reliable as the reports beneath them.** If the underlying figures are inaccurate or have been manipulated, the indicators will mislead — accurate analysis depends on a **faithful representation** of the data.
- **Ratios ignore non-financial factors** entirely, so they can miss causes (a lost key customer, falling product quality) that do not appear in dollars.
- **Comparisons between businesses can be distorted by different accounting methods** (for example FIFO versus Identified Cost, or different depreciation methods) and by differences in **size and nature**.
- **A single year-end figure can hide fluctuations** within the period — a business with a busy season and a quiet one may look different depending on when the snapshot is taken.
- **Ratios show *what* happened, not *why*.** They must be **interpreted** with judgement and supported by non-financial information; a number is a starting point for analysis, not the conclusion.

Ethical considerations. Profitability indicators are read by outsiders who make real decisions on the strength of them — most often a **lender** deciding whether to advance finance, or a prospective **buyer** valuing the business — so the owner has an ethical duty to ensure they rest on a **faithful representation** of the reports. Several temptations arise. The first is **manipulating the underlying figures** — overstating closing inventory or omitting an expense — which inflates net profit and every profitability indicator built on it, presenting a business that looks stronger than it is. The second is **selective disclosure**: presenting only the most flattering ratio, or cherry-picking the single best year and omitting the years in which performance fell, denies the reader a **neutral** and **comparable** view. The third is **short-termism** — cutting maintenance, staff training or advertising to lift this year's profit and profitability at the expense of the business's future. Ethical analysis reports the true figures, discloses results **completely and even-handedly** (good years and bad), chooses **valid, like-with-like benchmarks** rather than misleading ones, and presents non-financial information honestly, so that lenders, buyers and the owner judge the business on its **real** performance.

Worked examples (scaffolded)

Example 1 — applying the five-step analysis process to the Net Profit Margin

Brightside Cycles is a trading business. For the year ended 30 June 2025 it reported net sales of \$300 000 and a net profit of \$48 000; for the year ended 30 June 2026 it reported net sales of \$350 000 and a net profit of \$45 500. Analyse and interpret the change in the business's profitability.

Working	Comment
Calculate: $\text{NPM } 2025 = (\$48\,000 \div \$300\,000) \times 100 = 16.0\%$; $\text{NPM } 2026 = (\$45\,500 \div \$350\,000) \times 100 = 13.0\%$.	Step 1 — relate net profit to net sales for each year.
Compare (trend): net sales change = $(\$350\,000 - \$300\,000) \div \$300\,000 = +16.7\%$; net profit change = $(\$45\,500 - \$48\,000) \div \$48\,000 = -5.2\%$.	Step 2 — compare the business with its own prior year; a trend needs at least two periods.
Interpret: the NPM fell 3.0 percentage points (16.0% → 13.0%) — profitability deteriorated .	Step 3 — sales rose but profit fell, so fewer cents of each sales dollar are kept.
Identify causes: sales grew 16.7% while profit fell 5.2%, so expenses grew faster than sales (total expenses rose from \$252 000 to \$304 500, up 20.8%).	Step 4 — draw on the figures (and any non-financial information) to explain the change.
Recommend: review and control operating expenses, and check that selling prices cover rising costs.	Step 5 — turn the interpretation into an action.

∴ Brightside Cycles sold more but kept less of each sales dollar as profit; its Net Profit Margin fell from 16.0% to 13.0% because expenses outpaced sales, and the owner should act to bring those expenses under control.

Example 2 — assessing profitability across the three bases

Harvest Grocers is a trading business. For the year ended 30 June 2026 it reported net sales of \$600 000, gross profit of \$204 000 and net profit of \$42 000. Its average total assets for the year were \$280 000 and its average owner's capital was \$175 000. Assess the business's profitability relative to sales, to assets and to the owner's investment.

Working	Comment
Relative to sales: $\text{GPM} = (\$204\,000 \div \$600\,000) \times 100 = 34.0\%$; $\text{NPM} = (\$42\,000 \div \$600\,000) \times 100 = 7.0\%$.	Cents of gross and net profit kept in every sales dollar.
Relative to assets: Return on Assets = $(\$42\,000 \div \$280\,000) \times 100 = 15.0\%$.	Profit earned per dollar of assets controlled.
Relative to owner's investment: Return on Owner's Investment = $(\$42\,000 \div \$175\,000) \times 100 = 24.0\%$.	Profit earned per dollar the owner invested.

Harvest Grocers — profitability schedule, year ended 30 June 2026

Indicator	Base	Result
Gross Profit Margin	Sales (gross)	34.0%

Indicator	Base	Result
Net Profit Margin	Sales (net)	7.0%
Return on Assets	Assets	15.0%
Return on Owner's Investment	Owner's investment	24.0%

∴ Harvest Grocers keeps 34 cents of gross profit and 7 cents of net profit in every sales dollar, earns 15 cents of profit on every dollar of assets, and returns 24 cents to the owner for every dollar invested — a rounded view that no single indicator could give.

Worked examples (unscaffolded)

Example 3 — comparing an indicator against an industry benchmark

Coastline Cafe reported a net profit of \$36 000 on net sales of \$300 000 for the year ended 30 June 2026. The published **industry average** Net Profit Margin for similar cafes is **15.0%**. Analyse Coastline Cafe's profitability against this benchmark, and note one limitation of the comparison.

Coastline Cafe's Net Profit Margin is $(\$36\,000 \div \$300\,000) \times 100 = \mathbf{12.0\%}$. Compared with the industry average of 15.0%, the cafe is **3.0 percentage points below** the benchmark, so it is **less profitable relative to sales than a typical similar cafe** — it keeps 12 cents of net profit in each sales dollar where the average business keeps 15. Likely causes are **higher expenses** (rent, wages) or **lower selling prices** than competitors, which the owner should investigate. One **limitation** must be kept in mind: the comparison is only valid if it is **like with like** — the businesses that make up the industry average must be of a **similar type and size** and use **comparable accounting methods**; if the average is dominated by large franchised chains with different cost structures, a 3.0-point gap may say more about the mismatch than about Coastline Cafe's performance.

∴ against the benchmark, Coastline Cafe is below the industry norm on the Net Profit Margin (12.0% versus 15.0%), pointing to higher expenses or lower prices — but the comparison is sound only if the benchmark businesses are genuinely comparable.

Example 4 — trend analysis: rising profit is not always rising profitability

Ridgeon Hardware reported the following over three years: net profit of \$40 000 (2024), \$44 000 (2025) and \$50 000 (2026), on net sales of \$400 000 (2024), \$440 000 (2025) and \$550 000 (2026). Analyse the **trend** in the business's profit and in its profitability, and explain what the trend reveals.

The **net profit trend** is upward every year: profit rose $(\$44\,000 - \$40\,000) \div \$40\,000 = \mathbf{+10.0\%}$ from 2024 to 2025, and $(\$50\,000 - \$44\,000) \div \$44\,000 = \mathbf{+13.6\%}$ from 2025 to 2026 — an overall **+25.0%** increase across the two years $(\$50\,000 - \$40\,000) \div \$40\,000$. Judged on the **dollar figure alone**, performance looks steadily better. But the **Net Profit Margin** tells a different story: $(\$40\,000 \div \$400\,000) \times 100 = \mathbf{10.0\%}$ in 2024, $(\$44\,000 \div \$440\,000) \times 100 = \mathbf{10.0\%}$ in 2025, and $(\$50\,000 \div \$550\,000) \times 100 = \mathbf{9.1\%}$ in 2026. Profitability held steady and then **slipped** in 2026: although profit grew, **net sales grew faster**, so the business kept slightly fewer cents of each sales dollar. This is exactly why profitability must be judged **relative to a base**, not on the dollar trend alone — a rising profit figure can mask a **falling** margin.

∴ Ridgeon Hardware's net profit rose 25.0% over the two years, but its Net Profit Margin eased from 10.0% to 9.1% in 2026, showing that higher profit dollars did not translate into higher profitability once sales growth is taken into account.

Practice questions — scaffolded

Question 1

Larkfield Sports, a trading business, reported for the year ended 30 June 2026: net profit \$40 000 and net sales \$500 000. Its average total assets were \$200 000 and its average owner's capital was \$160 000.

- Distinguish between **profit** and **profitability** in one or two sentences.
- Calculate the **Net Profit Margin** (profit relative to sales) and the **Return on Assets** (profit relative to assets).

- c. State what profitability **relative to the owner's investment** measures, and calculate the **Return on Owner's Investment**.

Question 2

Meadow Bakery, a trading business, reported net sales of \$250 000 and net profit of \$45 000 for the year ended 30 June 2025, and net sales of \$300 000 and net profit of \$45 000 for the year ended 30 June 2026.

- a. Calculate the **Net Profit Margin** for each year.
- b. Calculate the **percentage change** in net sales and in net profit from 2025 to 2026.
- c. Interpret the change in the business's profitability, and suggest one likely cause.

Question 3

Hillcrest Hardware reported a **Net Profit Margin of 9.0%** for the year ended 30 June 2026. Two benchmarks are available: the **same business earned 11.0%** in 2025, and the **industry average** is **10.0%**.

- a. State whether the business's profitability has **improved or deteriorated** compared with its own previous year, and by how many percentage points.
- b. State how the business compares with the **industry average**.
- c. Explain in one sentence why comparing with the industry average must be done **like with like**.

Question 4

Aspen Retail and Birch Retail each reported a **Net Profit Margin of 10.0%** for the year ended 30 June 2026. Aspen values its inventory using **FIFO** and Birch uses **Identified Cost**; Aspen is a small suburban store and Birch is a large city store.

- a. Explain why an identical Net Profit Margin does **not** necessarily mean the two businesses are equally profitable, or directly comparable.
- b. State **two limitations** of ratio analysis illustrated by this comparison.
- c. Explain why a ratio must be **interpreted**, not just calculated.

Question 5

Fernway Florist, a trading business, reported net sales of \$200 000 and net profit of \$30 000 for the year ended 30 June 2025, and net sales of \$260 000 and net profit of \$26 000 for the year ended 30 June 2026. During 2026 the business opened a **second shopfront** and hired **two extra staff**.

- a. Calculate the **Net Profit Margin** for each year.
- b. Calculate the **percentage change** in net profit from 2025 to 2026.
- c. Interpret the change in profitability, identify a likely cause using both **financial and non-financial** information, and recommend an action.

Question 6

Brookdale Books reported a **rising Net Profit Margin** over three years, but during the same period it received a growing number of **customer complaints** and lost **two long-serving staff**.

- a. Distinguish between **financial** and **non-financial** information in one or two sentences.
- b. State the **two pieces of non-financial information** mentioned above, and explain what each adds to the financial indicator.
- c. Explain why the owner should **not** rely on the Net Profit Margin alone when judging the business's performance.

Practice questions — unscaffolded

Question 7

Glenmore Trading reported for the year ended 30 June 2026: net sales \$800 000, gross profit \$320 000 and net profit \$72 000. Its average total assets were \$400 000 and its average owner's capital was \$240 000. Calculate the Gross Profit Margin, Net Profit Margin, Return on Assets and Return on Owner's Investment, present them in a profitability schedule, and state what each of the three bases tells the owner.

Question 8

Seaview Sports reported net sales of \$500 000 and net profit of \$75 000 for the year ended 30 June 2025, and net sales of \$600 000 and net profit of \$72 000 for the year ended 30 June 2026. Calculate the Net Profit Margin for each year and the percentage change in net sales and in net profit, then interpret the change in profitability, identify a likely cause, and recommend an action.

Question 9

Ambleside Autos reported a net profit of \$54 000 on net sales of \$600 000 for the year ended 30 June 2026. A competitor of similar size and type reported a net profit of \$56 000 on net sales of \$400 000. Calculate each business's Net Profit Margin, state which is more profitable relative to sales, and explain one limitation to bear in mind when comparing the two.

Question 10

Rosslyn Retail reported net profit of \$50 000 (2024), \$55 000 (2025) and \$60 000 (2026) on net sales of \$400 000 (2024), \$500 000 (2025) and \$600 000 (2026). Calculate the percentage change in net profit each year and the Net Profit Margin each year, and explain why **rising net profit does not necessarily mean rising profitability**.

Question 11

Answer each part using the indicator formulas.

- A business has net sales of \$500 000 and a Net Profit Margin of 9%. Calculate its net profit.
- A business has a net profit of \$60 000 and a Net Profit Margin of 12%. Calculate its net sales.
- A business has a net profit of \$48 000 and average total assets of \$300 000. Calculate its Return on Assets.
- A business has a net profit of \$50 000 and a Return on Owner's Investment of 25%. Calculate its average owner's capital.

Question 12

List and explain **four limitations** of ratio analysis, using a sentence or two for each.

Question 13

Tarnwood Timber's Net Profit Margin fell from **12.0%** (on net sales of \$450 000 in 2025) to **9.0%** (on net sales of \$500 000 in 2026). During 2026 a new competitor opened nearby, a key supplier raised its prices, and the business ran a large advertising campaign. Calculate the net profit for each year and the percentage change in net profit, then use the analysis-and-interpretation process to interpret the change, identify causes drawing on both financial and non-financial information, and recommend **two** actions.

Question 14

Kelson Trading reported for the year ended 30 June 2026: net profit \$54 000, net sales \$540 000, average total assets \$450 000 and average owner's capital \$300 000. Calculate the Net Profit Margin, the Return on Assets and the Return on Owner's Investment. Explain why the Return on Owner's Investment is **higher** than the Return on Assets, and discuss **one benchmark** the owner could use to judge whether the Return on Owner's Investment is satisfactory.

Question 15

Explain each of the following in a sentence or two.

- What **profitability** measures, and why it is judged **relative to a base** rather than in dollars alone.
- The **five steps** of the analysis-and-interpretation process.
- The difference between **financial** and **non-financial** information.
- Why a single ratio means little until it is **compared**, and what makes a comparison **valid**.

Question 16

Dunmore Deli reported a Net Profit Margin of **10.0%** (2024), **11.0%** (2025) and **12.0%** (2026). The **industry average** Net Profit Margin was **14.0%** in each of those years. Describe the **trend** in the business's own profitability, **compare** it with the benchmark, and explain what the two comparisons together tell the owner.

Question 17

Oakvale Living (owner S. Oakvale) is applying to Northbank for a loan and wants the business's profitability to look as strong as possible. The correct figures for the year ended 30 June 2026 are net sales \$500 000 and net profit \$45 000. The owner proposes to (i) value closing inventory at \$70 000 rather than the \$55 000 physically counted — which would raise net profit to \$60 000 — and (ii) present the bank with **only** the one year in which the Net Profit Margin was highest, omitting the two later years in which it fell. Calculate the **correct** Net Profit Margin and the Net Profit Margin that proposal (i) would produce, then discuss the ethical considerations the owner's proposals raise, referring to a relevant qualitative characteristic and to the effect on the bank, and state what should be done.

Question 18

Wattlebank Trading (owner R. Wattle) reported the following for two years:

Wattlebank Trading	2025 \$	2026 \$
Net sales	400 000	480 000
Gross profit	152 000	168 000
Net profit	44 000	36 000
Average total assets	275 000	300 000
Average owner's capital	220 000	240 000

Calculate the Gross Profit Margin, Net Profit Margin, Return on Assets and Return on Owner's Investment for each year, present them in a profitability schedule, and use the analysis-and-interpretation process to interpret the change in the business's profitability, identify likely causes, and recommend an action.

Answers

1.
 - a. See solutions b. NPM **8.0%**, Return on Assets **20.0%** c. Return on Owner's Investment **25.0%**
2.
 - a. NPM 2025 **18.0%**, 2026 **15.0%** b. Net sales **+20.0%**, net profit **0.0%** c. Profitability fell — expenses grew with sales
3.
 - a. Deteriorated, down **2.0** points (11.0% → 9.0%) b. **1.0** point below the industry average (10.0%) c. See solutions
4. See solutions
5.
 - a. NPM 2025 **15.0%**, 2026 **10.0%** b. Net profit **-13.3%** c. See solutions
6. See solutions
7. GPM **40.0%**, NPM **9.0%**, Return on Assets **18.0%**, Return on Owner's Investment **30.0%**
8. NPM 2025 **15.0%**, 2026 **12.0%**; net sales **+20.0%**, net profit **-4.0%**; profitability fell
9. Ambleside NPM **9.0%**, competitor NPM **14.0%**; the competitor is more profitable relative to sales
10. NPM **12.5%** → **11.0%** → **10.0%**; net profit **+10.0%** then **+9.1%**; profit up but profitability down
11.
 - a. \$45 000 b. \$500 000 c. **16.0%** d. \$200 000
12. See solutions
13. Net profit 2025 \$54 000, 2026 \$45 000; net profit **-16.7%**; NPM down **3.0** points — see solutions
14. NPM **10.0%**, Return on Assets **12.0%**, Return on Owner's Investment **18.0%** — see solutions
15. See solutions
16. Own NPM rose **10.0%** → **12.0%** (up 2.0 points) but is **2.0** points below the 14.0% industry average — see solutions
17. Correct NPM **9.0%**; overstated NPM **12.0%** — see solutions
18. 2025: GPM **38.0%**, NPM **11.0%**, ROA **16.0%**, ROOI **20.0%**; 2026: GPM **35.0%**, NPM **7.5%**, ROA **12.0%**, ROOI **15.0%** — all fell; see solutions

Fully-worked solutions

Question 1

- a. **Profit** is the absolute dollar surplus of revenue over expenses (here \$40 000). **Profitability** is that profit measured **relative to a base** — to sales, assets or the owner's investment — so that the result can be compared fairly with other periods or other businesses regardless of size.
- b. Net Profit Margin = $(\$40\,000 \div \$500\,000) \times 100 = \mathbf{8.0\%}$. Return on Assets = $(\$40\,000 \div \$200\,000) \times 100 = \mathbf{20.0\%}$.
- c. Profitability relative to the owner's investment measures **how much profit the business earns for every dollar the owner has put in** — the return on the owner's own money. Return on Owner's Investment = $(\$40\,000 \div \$160\,000) \times 100 = \mathbf{25.0\%}$, so Larkfield Sports earns 25 cents of profit for every dollar the owner invested.

Question 2

- a. NPM 2025 = $(\$45\,000 \div \$250\,000) \times 100 = \mathbf{18.0\%}$; NPM 2026 = $(\$45\,000 \div \$300\,000) \times 100 = \mathbf{15.0\%}$.
- b. Net sales change = $(\$300\,000 - \$250\,000) \div \$250\,000 \times 100 = \mathbf{+20.0\%}$; net profit change = $(\$45\,000 - \$45\,000) \div \$45\,000 \times 100 = \mathbf{0.0\%}$.
- c. Net sales **rose 20.0%** but net profit was **unchanged**, so the Net Profit Margin **fell** from 18.0% to 15.0% — profitability **deteriorated**. A likely cause is that **expenses rose in step with the extra sales** (more inventory, wages or delivery costs) — the whole \$50 000 of additional sales was absorbed by an equal \$50 000 of

additional expenses, so the extra trade generated no additional profit; the owner should investigate why the growth in sales did not flow through to profit.

Question 3

- a. Compared with its own previous year, the business's profitability has **deteriorated**: the Net Profit Margin **fell 2.0 percentage points**, from 11.0% in 2025 to 9.0% in 2026.
- b. Against the **industry average of 10.0%**, the business is **1.0 percentage point below** — it is slightly **less profitable** than a typical business in its industry.
- c. The comparison is valid only if the businesses in the industry average are of a **similar type and size** and use **comparable accounting methods** (the qualitative characteristic of **comparability**); otherwise the gap may reflect those differences rather than a genuine difference in performance.

Question 4

- a. An identical **Net Profit Margin** shows only that each business keeps the same cents of net profit per sales dollar; it does **not** make them directly comparable, because they differ in ways the ratio hides. They use **different inventory-cost methods** (FIFO versus Identified Cost), which can produce different Cost of Sales and therefore different profit from the same trading, and they differ in **size and nature** (a small suburban store versus a large city store) with different cost structures, so the same 10.0% does not mean the two are “equally profitable” in any meaningful, comparable sense.
- b. Two limitations illustrated: **(1)** comparisons between businesses are **distorted by different accounting methods** (FIFO versus Identified Cost); and **(2)** comparisons must be **like with like** — businesses of different **size and nature** cannot be judged sound simply because a single ratio matches.
- c. A ratio must be **interpreted** because the number on its own states *what* the position is but not *why* it arose or what it means; without interpretation — comparing it to a valid benchmark, explaining the cause and considering non-financial factors — the figure gives the owner no basis for a decision.

Question 5

- a. $\text{NPM 2025} = (\$30\,000 \div \$200\,000) \times 100 = \mathbf{15.0\%}$; $\text{NPM 2026} = (\$26\,000 \div \$260\,000) \times 100 = \mathbf{10.0\%}$.
- b. $\text{Net profit change} = (\$26\,000 - \$30\,000) \div \$30\,000 \times 100 = \mathbf{-13.3\%}$.
- c. Despite net sales rising, the Net Profit Margin **fell** from 15.0% to 10.0% and net profit dropped 13.3% — profitability **deteriorated**. The **financial** signal is that expenses grew faster than sales; the **non-financial** information explains why — the business opened a **second shopfront** (extra rent and fit-out costs) and hired **two extra staff** (extra wages), so its expenses jumped in 2026. The owner should confirm the new shopfront is generating enough additional sales to cover its costs and, if not, review staffing and expenses or lift selling prices; the margin should be re-tested once the new site has had time to build trade.

Question 6

- a. **Financial** information is expressed in **dollars** and comes from the accounting reports and the indicators built from them (such as the Net Profit Margin). **Non-financial** information is relevant information **not** expressed in dollars — for example customer numbers, satisfaction, or staff turnover.
- b. The two pieces of non-financial information are the **growing number of customer complaints** and the **loss of two long-serving staff**. Rising complaints warn that **customer satisfaction is falling**, which may erode future sales even while the current margin looks healthy; losing experienced staff signals a **loss of skills and knowledge** that can lower service quality and lift training costs. Each explains risks to future performance that the financial indicator cannot show.
- c. The Net Profit Margin is **historical and financial only** — it reports past dollars and says nothing about customer satisfaction or staff. A margin that is rising **today** can conceal problems (unhappy customers, departing staff) that will damage **future** profitability, so the owner must read the indicator **alongside** non-financial information rather than relying on it alone.

Question 7

Gross Profit Margin = $(\$320\,000 \div \$800\,000) \times 100 = 40.0\%$; Net Profit Margin = $(\$72\,000 \div \$800\,000) \times 100 = 9.0\%$; Return on Assets = $(\$72\,000 \div \$400\,000) \times 100 = 18.0\%$; Return on Owner's Investment = $(\$72\,000 \div \$240\,000) \times 100 = 30.0\%$.

Glenmore Trading — profitability schedule, year ended 30 June 2026

Indicator	Base	Result
Gross Profit Margin	Sales (gross)	40.0%
Net Profit Margin	Sales (net)	9.0%
Return on Assets	Assets	18.0%
Return on Owner's Investment	Owner's investment	30.0%

Relative to **sales**, the business keeps 40 cents of gross profit and 9 cents of net profit in every sales dollar; relative to **assets**, it earns 18 cents of profit on every dollar of assets it controls; and relative to the **owner's investment**, it returns 30 cents to the owner for every dollar invested. Each base answers a different question, so together they give a fuller verdict on profitability than any one figure.

Question 8

NPM 2025 = $(\$75\,000 \div \$500\,000) \times 100 = 15.0\%$; NPM 2026 = $(\$72\,000 \div \$600\,000) \times 100 = 12.0\%$. Net sales change = $(\$600\,000 - \$500\,000) \div \$500\,000 \times 100 = +20.0\%$; net profit change = $(\$72\,000 - \$75\,000) \div \$75\,000 \times 100 = -4.0\%$.

Net sales **rose 20.0%** but net profit **fell 4.0%**, so the Net Profit Margin **fell 3.0 percentage points**, from 15.0% to 12.0% — profitability **deteriorated**. Because sales grew strongly while profit slipped, the cause lies in **expenses rising faster than sales**: the extra trade brought more than proportional increases in cost of sales or operating expenses. The owner should **review and control expenses** — and check that selling prices have kept pace with cost prices — then re-test the margin next period to confirm the corrective action has worked.

Question 9

Ambleside Autos: Net Profit Margin = $(\$54\,000 \div \$600\,000) \times 100 = 9.0\%$. Competitor: Net Profit Margin = $(\$56\,000 \div \$400\,000) \times 100 = 14.0\%$. The **competitor is more profitable relative to sales**, keeping 14 cents of net profit in each sales dollar against Ambleside's 9 cents, even though Ambleside made the larger sales. One **limitation** to bear in mind is that the comparison is sound only if the two businesses are genuinely **like with like** — using **comparable accounting methods** and covering the **same period** under similar conditions; differences in method, or non-financial factors such as location or product mix, could account for part of the 5.0-point gap.

Question 10

Net Profit Margin: 2024 = $(\$50\,000 \div \$400\,000) \times 100 = 12.5\%$; 2025 = $(\$55\,000 \div \$500\,000) \times 100 = 11.0\%$; 2026 = $(\$60\,000 \div \$600\,000) \times 100 = 10.0\%$. Net profit change: 2024 → 2025 = $(\$55\,000 - \$50\,000) \div \$50\,000 \times 100 = +10.0\%$; 2025 → 2026 = $(\$60\,000 - \$55\,000) \div \$55\,000 \times 100 = +9.1\%$.

Net profit **rose every year** — up 10.0% then 9.1% — so on the **dollar figure alone** the business looks steadily more successful. But the **Net Profit Margin fell every year**, from 12.5% to 11.0% to 10.0%, because **net sales grew faster than net profit**: each year the business kept fewer cents of profit in every sales dollar. Rising net profit therefore does **not** necessarily mean rising profitability — profit must be judged **relative to a base** (here, sales). Rosslyn's trend shows a business **growing** its profit while its **profitability declines**, a warning that would be missed by anyone who watched only the dollar figure.

Question 11

- Net profit = Net Profit Margin $\times$ net sales = $9\% \times \$500\,000 = 0.09 \times \$500\,000 = \$45\,000$.
- Net sales = net profit $\div$ Net Profit Margin = $\$60\,000 \div 0.12 = \$500\,000$.
- Return on Assets = $(\$48\,000 \div \$300\,000) \times 100 = 16.0\%$.

d. Average owner's capital = net profit ÷ Return on Owner's Investment = \$50 000 ÷ 0.25 = **\$200 000**.

Question 12

Four limitations of ratio analysis:

- **A ratio is meaningless in isolation.** It carries information only when **compared** with a valid benchmark (the business's own past, its budget, a similar business, or an industry average), and only when that comparison is **like with like**.
- **Ratios are historical.** They are calculated from **past** reports and describe what has already happened; on their own they do not predict future performance.
- **Ratios depend on the accuracy of the reports.** If the underlying figures are wrong or have been manipulated, the indicators built on them will mislead — the analysis is only as reliable as the data.
- **Ratios ignore non-financial factors and different accounting methods.** They capture nothing that is not in dollars (customer satisfaction, staff, competition), and comparisons between businesses can be **distorted by different accounting methods** (for example FIFO versus Identified Cost) or by differences in size and nature.

Question 13

Net profit 2025 = 12.0% × \$450 000 = 0.12 × \$450 000 = **\$54 000**; net profit 2026 = 9.0% × \$500 000 = 0.09 × \$500 000 = **\$45 000**. Net profit change = (\$45 000 – \$54 000) ÷ \$54 000 × 100 = **–16.7%**.

Interpret: the Net Profit Margin **fell 3.0 percentage points** (12.0% → 9.0%) and net profit dropped 16.7% even though net sales rose — profitability **deteriorated** markedly. *Identify causes:* the **financial** signal is that expenses grew faster than sales; the **non-financial** information explains it — a **new competitor nearby** is likely to have forced price cuts (squeezing the margin), a **supplier's price rise** lifted cost of sales, and a **large advertising campaign** added expense that has not yet fully paid off in sales. *Recommend* (two actions): **(1)** review selling prices and the supply arrangement — negotiate with the supplier or find an alternative, and reprice where the market allows — to rebuild the gross margin; and **(2)** assess the return on the advertising spend and control operating expenses, continuing only the marketing that demonstrably lifts sales. The owner should also gather non-financial information (customer numbers, the competitor's pricing) before deciding.

Question 14

Net Profit Margin = (\$54 000 ÷ \$540 000) × 100 = **10.0%**; Return on Assets = (\$54 000 ÷ \$450 000) × 100 = **12.0%**; Return on Owner's Investment = (\$54 000 ÷ \$300 000) × 100 = **18.0%**.

The **Return on Owner's Investment (18.0%) is higher than the Return on Assets (12.0%)** because of **gearing** — the assets are financed **partly by liabilities**, not by the owner alone: the owner's capital (\$300 000) is smaller than the total assets (\$450 000). Both indicators divide the **same \$54 000 of net profit**, but the Return on Owner's Investment divides it by the owner's **smaller** slice of the funding, so it must produce the **higher** rate. Whenever a business carries liabilities and earns a profit, the Return on Owner's Investment will exceed the Return on Assets; only if the business had **no liabilities at all** would average capital equal average total assets and the two indicators be equal.

To judge whether a Return on Owner's Investment of 18.0% is **satisfactory**, the owner needs a **benchmark**. A suitable one is the **return available from an alternative, comparable investment** — for example the interest the owner could earn by placing the same money in a term deposit, or the return from a similar business — since the owner will only regard 18.0% as satisfactory if it **exceeds** what the money could earn elsewhere for the risk taken. (The business's **own prior year** or a **similar business** would serve equally as valid, like-with-like benchmarks.)

Question 15

- a. **Profitability** measures a business's **ability to earn profit relative to a base** — its sales, its assets or the owner's investment. It is judged relative to a base, rather than in dollars alone, so that businesses of different sizes, and the same business in different years, can be **compared fairly**: a larger business will naturally make more profit in dollars, so only a rate reveals how hard its resources are working.
- b. The five steps are: **(1) calculate** the relevant indicator; **(2) compare** it with a benchmark (the business over time, the budget, a similar business, or an industry average); **(3) interpret** whether it has improved or

deteriorated; **(4) identify the causes**, using financial and non-financial information; and **(5) recommend** a course of action.

- c. **Financial** information is expressed in **dollars** and is drawn from the accounting reports and the indicators calculated from them; **non-financial** information is relevant information **not** expressed in dollars — such as customer numbers, satisfaction, market share, staff or competitor activity — that helps explain the financial results and informs decisions.
- d. A single ratio means little because there is nothing to judge it against — no way to tell whether it is high or low — until it is **compared** with a benchmark. A comparison is **valid** only when it is made **like with like** (the qualitative characteristic of **comparability**): the same business over time, or businesses of a similar type and size using comparable accounting methods.

Question 16

The business's **own trend** in the Net Profit Margin is steadily **upward**: 10.0% (2024) → 11.0% (2025) → 12.0% (2026), an improvement of **2.0 percentage points** over the two years. Its own profitability is therefore **getting better**. Compared with the **industry average of 14.0%**, however, the business is **below the benchmark in every year**, and still **2.0 percentage points short** in 2026 (14.0% – 12.0%).

Read together, the two comparisons tell the owner two different, useful things: against **itself over time**, the business is **improving** and closing the gap; against the **industry**, it is still **less profitable than the typical business** in its field and has further to go. Neither comparison alone is enough — the trend shows the direction of travel, the benchmark shows the standard still to be reached — so the owner should keep pursuing the improvements that are working while investigating why the margin remains below the industry norm.

Question 17

Correctly, the Net Profit Margin = $(\$45\,000 \div \$500\,000) \times 100 = 9.0\%$. Proposal (i) overstates closing inventory by \$15 000 (\$70 000 instead of the \$55 000 counted). Because the business records **Cost of Sales from its inventory cards as each sale is made**, the physical count does not alter Cost of Sales; what the count reveals is that the cards show \$70 000 on hand when only \$55 000 is there, so a \$15 000 **inventory loss** must be recorded and deducted from Gross Profit. Reporting the inventory at \$70 000 suppresses that loss, so net profit is lifted to \$60 000 and the reported margin would become $(\$60\,000 \div \$500\,000) \times 100 = 12.0\%$.

Both proposals breach the owner's ethical duty to present the reports as a **faithful representation** — complete, neutral and free from bias. Proposal (i) records inventory that does **not exist** on hand, overstating the Inventory asset and, by omitting the \$15 000 inventory loss, inflating net profit and the Net Profit Margin from a true 9.0% to a flattering 12.0%; the reports would no longer represent the business's real trading. Proposal (ii) is **selective disclosure** — presenting only the single best year and hiding the two years of decline denies the bank a **neutral and comparable** view of the trend, which is exactly what a lender needs to judge the direction of performance. **Northbank** relies on the margin and the trend to decide whether the business can service a loan; acting on the inflated 12.0% margin and a cherry-picked good year, it could advance finance the business cannot in fact repay, exposing the bank to loss and the owner to loss of trust and possible legal consequences once the true position emerges. The owner should **value closing inventory at the \$55 000 actually counted**, report the true Net Profit Margin of **9.0%**, and disclose **all three years** so the bank sees the genuine trend.

Question 18

2025 — GPM = $(\$152\,000 \div \$400\,000) \times 100 = 38.0\%$; NPM = $(\$44\,000 \div \$400\,000) \times 100 = 11.0\%$; Return on Assets = $(\$44\,000 \div \$275\,000) \times 100 = 16.0\%$; Return on Owner's Investment = $(\$44\,000 \div \$220\,000) \times 100 = 20.0\%$.

2026 — GPM = $(\$168\,000 \div \$480\,000) \times 100 = 35.0\%$; NPM = $(\$36\,000 \div \$480\,000) \times 100 = 7.5\%$; Return on Assets = $(\$36\,000 \div \$300\,000) \times 100 = 12.0\%$; Return on Owner's Investment = $(\$36\,000 \div \$240\,000) \times 100 = 15.0\%$.

Wattlebank Trading — profitability schedule

Indicator	2025	2026
Gross Profit Margin	38.0%	35.0%
Net Profit Margin	11.0%	7.5%
Return on Assets	16.0%	12.0%
Return on Owner's Investment	20.0%	15.0%

Compare: **every** profitability indicator **fell** in 2026, even though net sales rose 20.0% ($(\$480\,000 - \$400\,000) \div \$400\,000$) and net profit fell 18.2% ($(\$36\,000 - \$44\,000) \div \$44\,000$). *Interpret:* profitability has **deteriorated on all three bases** — relative to sales, to assets and to the owner's investment. *Identify causes:* the decline begins in the **trading margin** — the Gross Profit Margin fell 3.0 points (38.0% → 35.0%), meaning cost prices rose relative to selling prices, or selling prices were discounted, and that fall flows straight through to the Net Profit Margin. The Net Profit Margin, however, fell **3.5 points** (11.0% → 7.5%) — half a point **more** than the gross margin — so **other expenses also grew a little faster than sales**: they absorbed \$108 000, or 27.0% of every sales dollar, in 2025 ($\$152\,000 - \$44\,000$) and \$132 000, or 27.5%, in 2026 ($\$168\,000 - \$36\,000$), a rise of 22.2% against sales growth of 20.0%. The trading margin is therefore the **main** cause of the fall and operating expenses the **smaller** one. The lower profit, spread over a larger asset and capital base, dragged the Return on Assets (16.0% → 12.0%) and the Return on Owner's Investment (20.0% → 15.0%) down as well. *Recommend:* the owner should **rebuild the gross margin** — review supplier prices and selling prices — and **control operating expenses**, then re-test all four indicators next period; non-financial information (competitor pricing, supplier terms) should inform the pricing decision.

Chapter 18 Evaluating performance — 18B Return on Owner's Investment and Return on Assets

Theory

A business exists to earn a **profit** for its owner, but a dollar figure for net profit — on its own — cannot tell the owner whether that profit is **good**. A net profit of \$36 000 is impressive for a business the owner started with \$150 000, yet disappointing for one that ties up \$1 500 000 of assets. To judge how **well** a business has performed, its profit must be measured **against the resources used to earn it**. This is what **profitability indicators** do: they relate the net profit for the period back to a base — the **owner's own investment**, or **all the assets the business controls** — and express the result as a **percentage**. Two of these indicators sit at the centre of assessing profitability: the **Return on Owner's Investment** and the **Return on Assets**.

Return on Owner's Investment (ROI). The **Return on Owner's Investment** measures how much **net profit** a business has earned for every dollar of the **owner's own funds** invested in it — the **capital** the owner has contributed and left in the business (including profit retained rather than withdrawn). It answers the owner's most personal question: *how hard is my money working in this business?* It is calculated as net profit as a percentage of the **average capital** for the period:

$$\text{Return on Owner's Investment (ROI)} = \frac{\text{net profit}}{\text{average capital}} \times 100$$

A Return on Owner's Investment of **24%** means the business earned **24 cents of net profit for every \$1.00 of the owner's capital**. Because it is a percentage, ROI lets the owner compare the return on their business against a completely different use of the same money — the interest a **term deposit** would have paid, or the return offered by shares or property — in exactly the way *return on investment* was used to rank alternatives in Chapter 3. Here the “return” is the business's **net profit** and the “amount invested” is the owner's **capital**.

Return on Assets (ROA). The **Return on Assets** measures how much **net profit** a business has earned from every dollar invested in its **assets** — *all* the assets it controls, regardless of whether those assets were financed by the owner or by outside parties. It answers a different question: *how efficiently is the business as a whole using everything it controls to make a profit?* It is calculated as net profit as a percentage of the **average total assets** for the period:

$$\text{Return on Assets (ROA)} = \frac{\text{net profit}}{\text{average total assets}} \times 100$$

A Return on Assets of **12%** means the business earned **12 cents of net profit for every \$1.00 of average assets** it controlled. ROA is the broadest measure of profitability, because it judges the business on the whole pool of resources at its command — the bank, inventory, receivables, equipment and vehicles — not just the slice the owner paid for.

Why “average”. Both indicators divide by an **average**, not a single balance. Net profit is earned **across the whole period**, but capital and total assets are reported in the Balance Sheet as a **snapshot on one day**. The owner may contribute or withdraw funds during the year, and the asset base rises and falls as the business trades, buys equipment and pays down debt. Matching a full year's profit against the balance on the **closing day only** would be misleading if the base changed during the year, so each indicator uses the **average** of the **opening** and **closing** balances:

$$\text{Average capital} = \frac{\text{capital (opening)} + \text{capital (closing)}}{2}$$

$$\text{Average total assets} = \frac{\text{total assets (opening)} + \text{total assets (closing)}}{2}$$

The opening figure is the balance at the *start* of the period (the previous Balance Sheet) and the closing figure is the balance at the *end*.

Interpreting the indicators. A single percentage is never “good” or “bad” until it is **compared**. The three standard comparisons are:

- against a **benchmark** — an industry average, a target the owner has set, or the return available from an **alternative investment** such as a term deposit. An ROI well above the term-deposit rate tells the owner their capital is earning far more inside the business than it would in the bank (the reward for accepting the greater risk of running a business);
- as a **trend** — this year's figure against last year's, to see whether profitability is **rising** or **falling**; and
- against a **similar business** — one of a comparable type and size, judged on the same basis (the qualitative characteristic of **comparability**).

When interpreting a **change**, state both the **direction** (up or down) and the **size** of the movement in **percentage points**, then explain what has driven it — a change in net profit, a change in the base (capital or assets), or both.

Return on Owner's Investment versus Return on Assets: the effect of gearing. For almost every business the **Return on Owner's Investment is higher than the Return on Assets**, and the reason is **gearing** — the use of **liabilities** to help finance the assets. Both indicators use the **same net profit** on top; the only difference is the base underneath. ROA divides that profit by **average total assets**, while ROI divides it by **average capital**. Because a geared business finances some of its assets with **borrowed funds**, its average capital is **smaller** than its average total assets — the owner has provided only *part* of the asset base, and liabilities have provided the rest. Dividing the same net profit by the **smaller** owner's base gives the **higher** percentage. In short:

- if a business had **no liabilities at all**, average capital would **equal** average total assets, and ROI would **equal** ROA;
- the **more** of its assets a business finances with liabilities (the **more highly geared** it is), the **smaller** the owner's share of the asset base, and the **larger** the gap by which ROI exceeds ROA.

This is the same idea met in Chapter 4: putting **borrowed** funds to work in the assets lets the owner earn a return on money they did not provide, lifting the percentage return on their own, smaller stake. The lift is real, but it is not free — gearing also raises **risk**. The interest on the borrowings is a **fixed commitment** that must be paid whether or not the business is profitable, so in a poor year, when net profit shrinks or turns into a **loss**, that same leverage works in **reverse**: the loss spread over the owner's smaller capital base makes ROI fall **further and faster** than ROA. Gearing therefore magnifies the owner's return in **both** directions — which is precisely why a high ROI built on heavy gearing must always be read alongside the business's **risk**, not admired on its own.

Worked model. *Brightwater Traders* reports a **net profit of \$36 000** for the year ended 30 June 2026. Its **capital** was **\$140 000** at 1 July 2025 and **\$160 000** at 30 June 2026, and its **total assets** were **\$280 000** at 1 July 2025 and **\$320 000** at 30 June 2026.

Brightwater Traders — year ended 30 June 2026	Figure
Net profit	\$36 000
Average capital = $(\$140\,000 + \$160\,000) \div 2$	\$150 000
Average total assets = $(\$280\,000 + \$320\,000) \div 2$	\$300 000
Return on Owner's Investment = $(\$36\,000 \div \$150\,000) \times 100$	24%
Return on Assets = $(\$36\,000 \div \$300\,000) \times 100$	12%

The owner earned **24 cents of net profit for every dollar of their own capital**, but the business as a whole earned only **12 cents for every dollar of assets** it controlled. ROI is **double** ROA because, on average, only **half** the \$300 000 of assets (the \$150 000 of capital) was financed by the owner — the other \$150 000 was financed by liabilities. The same \$36 000 profit, spread over the owner's smaller half, gives twice the percentage.

Gearing and the ROI–ROA gap. To see the gearing effect on its own, compare three businesses that each earn the **same \$30 000 net profit** on the **same \$200 000 of average total assets** — so each has a Return on Assets of **15%** — but finance those assets differently. Only the owner's share (the gearing) changes:

Financing mix	Avg total assets \$	Avg capital \$	Avg liabilities \$	Net profit \$	ROA	ROI
No gearing	200 000	200 000	0	30 000	15%	15%

Financing mix	Avg total assets \$	Avg capital \$	Avg liabilities \$	Net profit \$	ROA	ROI
(owner funds all)						
Moderate gearing	200 000	150 000	50 000	30 000	15%	20%
High gearing	200 000	100 000	100 000	30 000	15%	30%

Every business is equally profitable in its use of **assets** — a 15% ROA across the board. But the **more** each one borrows, the **smaller** the owner's capital base and the **higher** the return on that base: ROI climbs from 15% (no debt) to 20% to 30%, while ROA never moves. The gap between ROI and ROA is simply the footprint of gearing.

Ethical considerations. The Return on Owner's Investment and the Return on Assets are read not only by the owner but by **lenders** deciding whether to advance finance and by **prospective buyers** valuing the business — and both ratios are only as honest as the figures used to build them. Under **faithful representation**, the **net profit**, the **capital** and the **total assets** must be **complete, free from material error and neutral (without bias)**. Because the ratios rise when the numerator is bigger or the base is smaller, there is a temptation to flatter them by **overstating net profit** — omitting an expense, failing to record an **inventory loss**, or overstating closing inventory — or by **understating the asset or capital base**. The **entity assumption** matters too: including the owner's **private** assets in the business's Balance Sheet, or blurring the owner's personal drawings into the accounts, distorts both the capital and the asset figures the ratios depend on. **Verifiability** requires that every figure can be traced to genuine source documents and reports, so an independent person could recalculate the same ROI and ROA. Manipulating a ratio does not change the underlying performance — the business earned what it earned — but a lender or buyer who acts on an inflated figure may advance finance, or pay a price, that the true performance never justified, and the owner who inflated it has misled the very people whose trust the business depends on. Honest, verifiable figures are the foundation of a profitability ratio that is genuinely useful for a decision.

Worked examples (scaffolded)

Example 1 — calculating the Return on Owner's Investment and the Return on Assets

Meadowbrook Nursery reports a **net profit of \$48 000** for the year ended 30 June 2025. Its **capital** was **\$180 000** at the start of the year and **\$220 000** at the end; its **total assets** were **\$300 000** at the start and **\$340 000** at the end.

Working	Comment
Average capital = $(\$180\,000 + \$220\,000) \div 2 = \$200\,000$.	Average the opening and closing capital — profit is earned across the whole year, so the base must represent the whole year.
Average total assets = $(\$300\,000 + \$340\,000) \div 2 = \$320\,000$.	Same reasoning, applied to the asset base.
Return on Owner's Investment = $(\$48\,000 \div \$200\,000) \times 100 = 24\%$.	Net profit $\div$ average capital $\times 100$. The owner earned 24 cents per dollar of their own funds.
Return on Assets = $(\$48\,000 \div \$320\,000) \times 100 = 15\%$.	Net profit $\div$ average total assets $\times 100$. The business earned 15 cents per dollar of all assets.

$\therefore$ *Meadowbrook Nursery* returned **24%** on the owner's investment and **15%** on its assets. ROI exceeds ROA because the owner financed only \$200 000 of the \$320 000 average assets — the remaining \$120 000 was financed by liabilities — so the same \$48 000 profit spread over the smaller owner's base gives the higher percentage.

Example 2 — interpreting a change in the Return on Owner's Investment over time

Coastone Kitchens earned a **net profit of \$30 000** in the year ended 30 June 2024, when its capital was **\$140 000** at the start and **\$160 000** at the end. In the year ended 30 June 2025 it earned a **net profit of \$44 000**, with capital of **\$160 000** at the start and **\$240 000** at the end. A term deposit would have paid the owner **5%** over each year.

Working	Comment
2024 average capital = $(\$140\,000 + \$160\,000) \div 2 = \$150\,000$; ROI = $(\$30\,000 \div \$150\,000) \times 100 = \mathbf{20\%}$.	The starting point for the trend.
2025 average capital = $(\$160\,000 + \$240\,000) \div 2 = \$200\,000$; ROI = $(\$44\,000 \div \$200\,000) \times 100 = \mathbf{22\%}$.	Note the 2024 closing capital (\$160 000) is the 2025 opening capital — the figures flow on.
The Return on Owner's Investment has risen by 2 percentage points (20% → 22%).	State both the direction (up) and the size of the change when interpreting a trend.
Both years the ROI far exceeds the 5% term deposit.	Judged against the alternative, the owner's capital is working much harder in the business.

∴ *Coastone Kitchens* has become **more profitable for its owner**: even though the owner increased their capital from an average of \$150 000 to \$200 000, the business lifted the return on that larger base from 20% to 22%. Against the 5% a term deposit would have paid, the business is a far more rewarding use of the owner's money — though it carries the greater risk that comes with running a business rather than banking the cash.

Worked examples (unscaffolded)

Example 3 — the Return on Owner's Investment, the Return on Assets and the gearing link

Riverbend Retail reports a **net profit of \$27 000**. Its **capital** was **\$80 000** at the start of the year and **\$100 000** at the end; its **total assets** were **\$170 000** at the start and **\$190 000** at the end. Calculate both profitability indicators and explain why they differ.

Average capital = $(\$80\,000 + \$100\,000) \div 2 = \mathbf{\$90\,000}$; average total assets = $(\$170\,000 + \$190\,000) \div 2 = \mathbf{\$180\,000}$. Return on Owner's Investment = $(\$27\,000 \div \$90\,000) \times 100 = \mathbf{30\%}$; Return on Assets = $(\$27\,000 \div \$180\,000) \times 100 = \mathbf{15\%}$. The two indicators use the **same** \$27 000 net profit; they differ only because the base differs. The owner financed \$90 000 of the \$180 000 average assets — exactly **half** — so liabilities financed the other half. Dividing the same profit by the owner's half rather than by the whole doubles the percentage, so ROI (30%) is exactly **twice** ROA (15%).

∴ the business earned 15 cents of profit on every asset dollar but 30 cents on every dollar of the owner's own money, because gearing lets the owner earn a return on the borrowed funds as well as their own.

Example 4 — two businesses with the same Return on Assets but a different Return on Owner's Investment

Two homeware businesses each earn a **net profit of \$20 000** on **average total assets of \$200 000** — so each has the same Return on Assets. But they are financed differently. *Highfield Homewares* had capital of **\$90 000** (opening) and **\$110 000** (closing); *Lowfield Living* had capital of **\$150 000** (opening) and **\$170 000** (closing). Calculate each business's Return on Assets and Return on Owner's Investment, and explain why the ROIs differ.

Both: Return on Assets = $(\$20\,000 \div \$200\,000) \times 100 = \mathbf{10\%}$. *Highfield*: average capital = $(\$90\,000 + \$110\,000) \div 2 = \$100\,000$, so ROI = $(\$20\,000 \div \$100\,000) \times 100 = \mathbf{20\%}$. *Lowfield*: average capital = $(\$150\,000 + \$170\,000) \div 2 = \$160\,000$, so ROI = $(\$20\,000 \div \$160\,000) \times 100 = \mathbf{12.5\%}$. The two businesses are **equally profitable in their use of assets** (both 10% ROA), but *Highfield* delivers its owner a much higher return — 20% against 12.5% — because it is **more highly geared**: the owner financed only \$100 000 of the \$200 000 of assets (liabilities financed the other \$100 000), whereas *Lowfield's* owner financed \$160 000, leaving only \$40 000 to liabilities.

∴ the same asset performance produces very different returns to the two owners purely because of gearing: the more of the asset base a business finances with liabilities, the further its ROI rises above its ROA — and the more risk the owner accepts for that higher return.

Practice questions — scaffolded

Question 1

Fernvale Furnishings reports a **net profit of \$42 000** for the year ended 30 June 2025. Its capital was **\$190 000** at the start of the year and **\$210 000** at the end; its total assets were **\$340 000** at the start and **\$360 000** at the end.

- Calculate the average capital and the average total assets.

- b. Calculate the Return on Owner's Investment.
- c. Calculate the Return on Assets.

Question 2

Brookside Bakery earned a **net profit of \$18 000** in the year ended 30 June 2024 (capital \$100 000 at the start, \$140 000 at the end) and a **net profit of \$27 000** in the year ended 30 June 2025 (capital \$140 000 at the start, \$160 000 at the end).

- a. Calculate the Return on Owner's Investment in each year.
- b. State the direction and size of the change in the Return on Owner's Investment.
- c. Explain what the change indicates about the return the owner is earning on their investment.

Question 3

Cedarwood Crafts reports a **net profit of \$28 000**. Its capital was **\$95 000** at the start of the year and **\$105 000** at the end; its total assets were **\$160 000** at the start and **\$190 000** at the end.

- a. Calculate the Return on Owner's Investment.
- b. Calculate the Return on Assets.
- c. Explain why the Return on Owner's Investment is higher than the Return on Assets, with reference to gearing.

Question 4

Harefield Joinery's owner earned a **net profit of \$20 000**, on capital of **\$115 000** at the start of the year and **\$135 000** at the end. A term deposit would have paid the owner **5%**.

- a. Calculate the Return on Owner's Investment.
- b. State how the Return on Owner's Investment compares with the 5% a term deposit would have paid.
- c. Explain why the higher return does not automatically make the business the better place for the owner's money, with reference to **risk**.

Question 5

Two businesses each earn a **net profit of \$24 000** on **average total assets of \$240 000**. *Summit Sports* had capital of **\$85 000** (opening) and **\$115 000** (closing); *Valley Ventures* had capital of **\$145 000** (opening) and **\$175 000** (closing).

- a. Calculate the Return on Owner's Investment of each business.
- b. Calculate the Return on Assets of each business.
- c. State which business is more highly geared, and explain why its Return on Owner's Investment is higher even though the two businesses have the same Return on Assets.

Question 6

Oakhaven Organics reports a **net profit of \$52 000**. Its capital was **\$175 000** at the start of the year and **\$225 000** at the end; its total assets were **\$230 000** at the start and **\$290 000** at the end. The industry benchmark for the Return on Owner's Investment is **22%**.

- a. Calculate the Return on Owner's Investment.
- b. Calculate the Return on Assets.
- c. Compare the Return on Owner's Investment with the 22% industry benchmark and comment on the business's profitability.

Practice questions — unscaffolded

Question 7

Pinewood Panels reports a **net profit of \$54 000**. Its capital was **\$230 000** at the start of the year and **\$270 000** at the end; its total assets were **\$430 000** at the start and **\$470 000** at the end. Calculate the Return on Owner's Investment and the Return on Assets.

Question 8

Rosewood Retail reports a **net profit of \$45 000**, with capital of **\$225 000** at the start of the year and **\$275 000** at the end, and total assets of **\$350 000** at the start and **\$400 000** at the end. Calculate both profitability indicators and state, in one sentence, what each tells the owner.

Question 9

Tidewater Traders earned a **net profit of \$28 000** in the year ended 30 June 2024 (capital \$130 000 at the start, \$150 000 at the end) and a **net profit of \$34 000** in the year ended 30 June 2025 (capital \$150 000 at the start, \$250 000 at the end). Calculate the Return on Owner's Investment in each year, state the change, and explain how the Return on Owner's Investment can **fall** even though net profit **rose**.

Question 10

Two businesses are compared for the year ended 30 June 2025. *Ashgrove Autos* earned a net profit of \$33 000, with average capital of \$150 000 and average total assets of \$220 000. *Bramble Bikes* earned a net profit of \$21 000, with average capital of \$150 000 and average total assets of \$210 000. Calculate the Return on Owner's Investment and the Return on Assets of each business, and state which business used both the owner's funds and its assets more profitably.

Question 11

Kelburn Traders reports a **net profit of \$30 000**, average capital of **\$150 000** and average total assets of **\$250 000**. Calculate the Return on Owner's Investment and the Return on Assets, and explain why the Return on Owner's Investment exceeds the Return on Assets, with reference to the proportion of the assets financed by the owner.

Question 12

Priya's business earned a **net profit of \$32 000**, on capital of **\$150 000** at the start of the year and **\$170 000** at the end. Priya could instead have placed her capital in a term deposit paying **5%** or in shares expected to return **9%**. Calculate the Return on Owner's Investment, compare it with the two alternatives, and **discuss** whether the higher return means Priya should be content to keep her funds in the business, with reference to **risk** and **liquidity**.

Question 13

Marlow Design achieved a **Return on Owner's Investment of 15%** on average capital of **\$180 000** (capital \$170 000 at the start of the year, \$190 000 at the end).

- Calculate the net profit for the year.
- The business's Return on Assets for the year was 9%. Calculate its average total assets.

Question 14

Halberd Freight achieved a **Return on Assets of 16%** on a **net profit of \$40 000**. Its total assets were **\$220 000** at the start of the year.

- Calculate the average total assets, and hence the total assets at the end of the year.
- The business's average capital was \$160 000. Calculate the Return on Owner's Investment.

Question 15

Northwind Supplies and *Southwind Supplies* each earned a **net profit of \$20 000** on **average total assets of \$250 000**. *Northwind's* average capital was **\$80 000**; *Southwind's* average capital was **\$125 000**. Calculate the Return on Assets and the Return on Owner's Investment of each business, and **discuss** why the two businesses report the same Return on Assets but a different Return on Owner's Investment, and what this implies about the risk each owner has accepted.

Question 16

Explain what the **Return on Owner's Investment** and the **Return on Assets** each measure, and explain why the Return on Owner's Investment is usually higher than the Return on Assets. Then **discuss** why a high Return on Owner's Investment produced by heavy gearing is **not** automatically a sign that the owner is better off.

Question 17

Cascade Crafts reported the following. In **Year 1**: net profit \$24 000, average capital \$120 000, average total assets \$240 000. In **Year 2**: net profit \$33 000, average capital \$220 000, average total assets \$300 000. Calculate the Return on Owner's Investment and the Return on Assets in each year, describe how the two indicators moved, and **discuss** how a reduction in the business's gearing can cause the Return on Owner's Investment to fall even as the Return on Assets rises.

Question 18

Delford Trading is applying to *Crestford Bank* for a loan and is also being valued by a prospective buyer. Both the lender and the buyer will judge the business on its Return on Owner's Investment and Return on Assets. The true figures are lower than the owner would like, so the owner is considering two things: **not recording a \$6 000 inventory loss** revealed by the physical count (which would keep net profit and closing inventory higher), and **including the owner's private car** among the business's assets. **Discuss** this proposal with reference to a relevant qualitative characteristic (and any relevant accounting assumption), and explain **one** consequence for the lender or buyer and **one** consequence for the business itself.

Answers

1.
 - a. Average capital \$200 000; average total assets \$350 000 b. 21% c. 12%
2.
 - a. 2024 15%; 2025 18% b. rose by 3 percentage points c. see solutions
3.
 - a. 28% b. 16% c. see solutions
4.
 - a. 16% b. far above the 5% term deposit c. see solutions
5.
 - a. Summit 24%; Valley 15% b. both 10% c. Summit (more geared) — see solutions
6.
 - a. 26% b. 20% c. above the 22% benchmark — see solutions
7. Return on Owner's Investment 21.6%; Return on Assets 12%
8. Return on Owner's Investment 18%; Return on Assets 12% — see solutions
9. 2024 20%; 2025 17%; fell by 3 percentage points — see solutions
10. Ashgrove ROI 22%, ROA 15%; Bramble ROI 14%, ROA 10%; Ashgrove used both more profitably
11. Return on Owner's Investment 20%; Return on Assets 12% — see solutions
12. Return on Owner's Investment 20% (vs 5% and 9%) — see solutions
13.
 - a. \$27 000 b. \$300 000
14.
 - a. Average total assets \$250 000; closing total assets \$280 000 b. 25%
15. Both ROA 8%; Northwind ROI 25%, Southwind ROI 16% — see solutions
16. See solutions
17. Year 1 ROI 20%, ROA 10%; Year 2 ROI 15%, ROA 11% — see solutions
18. See solutions

Fully-worked solutions

Question 1

- a. Average capital = $(\$190\,000 + \$210\,000) \div 2 = \mathbf{\$200\,000}$; average total assets = $(\$340\,000 + \$360\,000) \div 2 = \mathbf{\$350\,000}$.
- b. Return on Owner's Investment = $(\$42\,000 \div \$200\,000) \times 100 = \mathbf{21\%}$.
- c. Return on Assets = $(\$42\,000 \div \$350\,000) \times 100 = \mathbf{12\%}$.

Question 2

- a. 2024: average capital = $(\$100\,000 + \$140\,000) \div 2 = \$120\,000$; ROI = $(\$18\,000 \div \$120\,000) \times 100 = \mathbf{15\%}$.
2025: average capital = $(\$140\,000 + \$160\,000) \div 2 = \$150\,000$; ROI = $(\$27\,000 \div \$150\,000) \times 100 = \mathbf{18\%}$.
- b. The Return on Owner's Investment has **risen by 3 percentage points** (15% → 18%).
- c. The business is earning a **higher return on the owner's funds** than it did a year ago — 18 cents of net profit per dollar of capital rather than 15. Even though the owner's average capital rose from \$120 000 to \$150 000, net profit grew fast enough (\$18 000 to \$27 000) to lift the return on that larger base. The owner's money is working harder in the business than before.

Question 3

- a. Average capital = $(\$95\,000 + \$105\,000) \div 2 = \$100\,000$; Return on Owner's Investment = $(\$28\,000 \div \$100\,000) \times 100 = \mathbf{28\%}$.

- b. Average total assets = $(\$160\,000 + \$190\,000) \div 2 = \$175\,000$; Return on Assets = $(\$28\,000 \div \$175\,000) \times 100 = 16\%$.
- c. Both indicators use the **same \$28 000 net profit**; they differ only in the base. The owner financed only \$100 000 of the \$175 000 average assets — a little under **three-fifths** — so liabilities financed the other \$75 000. Dividing the same profit by the owner's smaller base rather than by the whole asset base gives the higher percentage, so ROI (28%) exceeds ROA (16%). This is the effect of **gearing**: the owner earns a return on the borrowed funds as well as on their own, lifting the return on their own, smaller stake.

Question 4

- a. Average capital = $(\$115\,000 + \$135\,000) \div 2 = \$125\,000$; Return on Owner's Investment = $(\$20\,000 \div \$125\,000) \times 100 = 16\%$.
- b. At **16%**, the return on the owner's investment is **more than three times** the 5% a term deposit would have paid — the owner earns 16 cents per dollar of capital in the business against 5 cents in the bank.
- c. The higher return is **not** automatically the better choice, because ROI measures only the **reward**, not the **risk**. The term deposit's 5% is effectively **guaranteed**, whereas the business's 16% depends on continued successful trading and could fall sharply — even become a loss — in a poor year. Running a business also carries risks a term deposit does not: competition, unpaid debtors, unsold inventory and the chance the owner cannot readily withdraw their capital. The owner accepts the greater risk in exchange for the prospect of the higher return, but must judge whether that extra return is worth the extra risk.

Question 5

- a. *Summit Sports*: average capital = $(\$85\,000 + \$115\,000) \div 2 = \$100\,000$; ROI = $(\$24\,000 \div \$100\,000) \times 100 = 24\%$. *Valley Ventures*: average capital = $(\$145\,000 + \$175\,000) \div 2 = \$160\,000$; ROI = $(\$24\,000 \div \$160\,000) \times 100 = 15\%$.
- b. Both: Return on Assets = $(\$24\,000 \div \$240\,000) \times 100 = 10\%$.
- c. **Summit Sports** is more highly geared. Both businesses earn the same 10% on their assets, but *Summit's* owner financed only \$100 000 of the \$240 000 average assets (liabilities financed the other \$140 000), while *Valley's* owner financed \$160 000, leaving only \$80 000 to liabilities. Because *Summit* spreads the same \$24 000 profit over a smaller owner's base, its Return on Owner's Investment is higher (24% against 15%). The greater the reliance on liabilities, the further ROI rises above ROA — though *Summit's* owner also carries the greater risk that goes with the higher gearing.

Question 6

- a. Average capital = $(\$175\,000 + \$225\,000) \div 2 = \$200\,000$; Return on Owner's Investment = $(\$52\,000 \div \$200\,000) \times 100 = 26\%$.
- b. Average total assets = $(\$230\,000 + \$290\,000) \div 2 = \$260\,000$; Return on Assets = $(\$52\,000 \div \$260\,000) \times 100 = 20\%$.
- c. At **26%**, the Return on Owner's Investment is **4 percentage points above** the 22% industry benchmark. The business is delivering its owner a **better-than-average** return on their capital: it earns 26 cents of net profit per dollar of the owner's funds against the 22 cents typical of the industry. This suggests the business is using the owner's investment more profitably than its competitors — a favourable result, provided the comparison is with businesses of a similar type and size (comparability) and the figures behind both ratios are reliable.

Question 7

Average capital = $(\$230\,000 + \$270\,000) \div 2 = \$250\,000$; Return on Owner's Investment = $(\$54\,000 \div \$250\,000) \times 100 = 21.6\%$. Average total assets = $(\$430\,000 + \$470\,000) \div 2 = \$450\,000$; Return on Assets = $(\$54\,000 \div \$450\,000) \times 100 = 12\%$.

Question 8

Average capital = $(\$225\,000 + \$275\,000) \div 2 = \$250\,000$; Return on Owner's Investment = $(\$45\,000 \div \$250\,000) \times 100 = 18\%$. Average total assets = $(\$350\,000 + \$400\,000) \div 2 = \$375\,000$; Return on Assets = $(\$45\,000 \div \$375\,000) \times 100 = 12\%$.

$\times 100 = 12\%$. The **Return on Owner's Investment (18%)** tells the owner how much profit each dollar of *their own capital* earned; the **Return on Assets (12%)** tells the owner how profitably the business used *all* the assets it controlled, regardless of how they were financed.

Question 9

2024: average capital = $(\$130\,000 + \$150\,000) \div 2 = \$140\,000$; ROI = $(\$28\,000 \div \$140\,000) \times 100 = 20\%$. 2025: average capital = $(\$150\,000 + \$250\,000) \div 2 = \$200\,000$; ROI = $(\$34\,000 \div \$200\,000) \times 100 = 17\%$. The Return on Owner's Investment has **fallen by 3 percentage points** ($20\% \rightarrow 17\%$).

The ROI fell even though net profit **rose** (from \$28 000 to \$34 000) because the owner's **average capital grew much faster** — from \$140 000 to \$200 000, a rise driven by the jump in closing capital to \$250 000 (a large contribution of capital or a big retention of profit). Net profit rose by about 21%, but the capital base rose by more than 40%, so the **larger profit is now spread over a much larger owner's investment**, giving a lower return per dollar. A rising dollar profit does not guarantee a rising ROI: what matters is profit **relative to** the capital used to earn it.

Question 10

Ashgrove Autos: ROI = $(\$33\,000 \div \$150\,000) \times 100 = 22\%$; ROA = $(\$33\,000 \div \$220\,000) \times 100 = 15\%$. *Bramble Bikes*: ROI = $(\$21\,000 \div \$150\,000) \times 100 = 14\%$; ROA = $(\$21\,000 \div \$210\,000) \times 100 = 10\%$. **Ashgrove Autos** used both the owner's funds and its assets more profitably: its Return on Owner's Investment (22% against 14%) and its Return on Assets (15% against 10%) are both higher. On the same average capital of \$150 000, *Ashgrove* earned a far higher return for its owner, and it also squeezed more profit from each dollar of assets — so on both measures of profitability it is the stronger performer.

Question 11

Return on Owner's Investment = $(\$30\,000 \div \$150\,000) \times 100 = 20\%$; Return on Assets = $(\$30\,000 \div \$250\,000) \times 100 = 12\%$. The Return on Owner's Investment exceeds the Return on Assets because both use the **same \$30 000 net profit** but ROA divides it by the larger average total assets (\$250 000) while ROI divides it by the smaller average capital (\$150 000). The owner financed only \$150 000 of the \$250 000 of assets — **60%** — with liabilities financing the other 40%. Because the same profit is spread over the owner's 60% share rather than the whole, the percentage return on the owner's investment is higher. (Indeed $20\% = 12\% \div 0.60$: the smaller the owner's share of the assets, the larger the multiple by which ROI exceeds ROA.)

Question 12

Average capital = $(\$150\,000 + \$170\,000) \div 2 = \$160\,000$; Return on Owner's Investment = $(\$32\,000 \div \$160\,000) \times 100 = 20\%$. This is well above both alternatives — four times the term deposit's **5%** and more than double the shares' expected **9%**.

On the reward alone, the business is comfortably the best use of Priya's capital. But ROI measures only the **reward**, and a decision must also weigh **risk** and **liquidity**. **Risk**: the 5% term deposit is effectively guaranteed and the 9% on shares, while variable, is spread across many companies; the business's 20% depends entirely on Priya's own continued successful trading and could fall — or turn into a loss — in a poor year, so it is far less certain than the alternatives. **Liquidity**: capital invested in her own business is **illiquid** — it is tied up in inventory, equipment and receivables and cannot be withdrawn quickly without disrupting or selling the business — whereas a term deposit is available at the end of its term and shares can be sold within days. So while the higher ROI makes the business attractive, Priya should be "content" to keep her funds there only if she is comfortable with the greater risk and the loss of ready access to her money; if she needed the funds soon, or could not bear a bad year, the safer, more liquid alternatives might suit her better despite their lower return.

Question 13

- Rearranging ROI = (net profit $\div$ average capital) $\times 100$ gives net profit = $(\text{ROI} \div 100) \times \text{average capital} = 0.15 \times \$180\,000 = \mathbf{\$27\,000}$. (Average capital is confirmed as $(\$170\,000 + \$190\,000) \div 2 = \$180\,000$.)
- Rearranging ROA = (net profit $\div$ average total assets) $\times 100$ gives average total assets = net profit $\div$ $(\text{ROA} \div 100) = \$27\,000 \div 0.09 = \mathbf{\$300\,000}$.

Question 14

- a. Average total assets = net profit $\div$ (ROA $\div$ 100) = $\$40\,000 \div 0.16 = \$250\,000$. Since the average is (opening + closing) $\div$ 2, the closing total assets = $(2 \times \$250\,000) - \$220\,000 = \$280\,000$.
- b. Return on Owner's Investment = $(\$40\,000 \div \$160\,000) \times 100 = 25\%$.

Question 15

Northwind: ROA = $(\$20\,000 \div \$250\,000) \times 100 = 8\%$; ROI = $(\$20\,000 \div \$80\,000) \times 100 = 25\%$. *Southwind*: ROA = $(\$20\,000 \div \$250\,000) \times 100 = 8\%$; ROI = $(\$20\,000 \div \$125\,000) \times 100 = 16\%$.

Both businesses earn the **same \$20 000 net profit** on the **same \$250 000 of average assets**, so their **Return on Assets is identical (8%)** — they are equally profitable in their use of the resources they control. Their **Return on Owner's Investment differs** because they are financed differently. *Northwind's* owner provided only \$80 000 of the \$250 000 of assets — under a **third** — so liabilities financed the other \$170 000; spreading the same profit over that much smaller base gives a 25% return. *Southwind's* owner provided \$125 000 — exactly **half** — leaving \$125 000 to liabilities, so the same profit spread over the larger owner's base gives only 16%.

The higher ROI carries a message about **risk**. *Northwind* achieves its 25% by being **more highly geared** — relying more on liabilities, which bring a fixed interest commitment that must be paid whether or not the business is profitable, and debt that must be repaid. So *Northwind's* owner earns the higher return **only** by accepting the greater risk; if trading weakened, the same gearing would drive *Northwind's* return down faster than *Southwind's*. Equal ROA, unequal ROI, unequal risk.

Question 16

The **Return on Owner's Investment** measures how much **net profit** a business earns for every dollar of the **owner's own capital** (net profit $\div$ average capital $\times$ 100); it tells the owner how well *their own money* is working in the business. The **Return on Assets** measures how much **net profit** a business earns for every dollar of **all the assets** it controls (net profit $\div$ average total assets $\times$ 100); it tells the owner how efficiently the business *as a whole* uses everything at its command, regardless of how those assets were financed.

The Return on Owner's Investment is usually **higher** than the Return on Assets because both use the **same net profit** but ROI divides it by the **smaller** base. A business that uses **liabilities** to help finance its assets — that is **geared** — has an average capital smaller than its average total assets, because the owner financed only part of the asset base and liabilities financed the rest. The same profit spread over the owner's smaller share gives the higher percentage; if the business had no liabilities at all, the two bases would be equal and ROI would equal ROA.

But a high Return on Owner's Investment produced by heavy gearing is **not** automatically a sign the owner is better off. The gearing that lifts ROI above ROA also raises **risk**: the interest on the borrowings is a **fixed commitment** that must be paid whether or not the business is profitable, and the debt must be repaid. In a good year the leverage magnifies the owner's return, but in a **poor** year it works in reverse — the same fixed interest and the same small capital base mean a shrinking profit, or a loss, hits the owner's return **harder**, so ROI falls further and faster than ROA. A high ROI that rests on heavy borrowing therefore comes with a greater chance of a sharp reversal; the owner is genuinely better off only if the extra return is worth the extra risk they have taken on to earn it.

Question 17

Year 1: ROI = $(\$24\,000 \div \$120\,000) \times 100 = 20\%$; ROA = $(\$24\,000 \div \$240\,000) \times 100 = 10\%$. Year 2: ROI = $(\$33\,000 \div \$220\,000) \times 100 = 15\%$; ROA = $(\$33\,000 \div \$300\,000) \times 100 = 11\%$. So the **Return on Assets rose** by 1 percentage point (10% $\rightarrow$ 11%) while the **Return on Owner's Investment fell** by 5 percentage points (20% $\rightarrow$ 15%).

These divergent movements are explained by a **fall in gearing**. In Year 1 the owner financed only \$120 000 of the \$240 000 of assets (half), so liabilities financed the other half and ROI was double ROA. By Year 2 the owner's average capital had risen to \$220 000 of \$300 000 of assets — the owner has contributed more capital or retained more profit, and now finances about **73%** of the assets, leaving only \$80 000 to liabilities. The business actually became **more profitable in its use of assets** (ROA up from 10% to 11%, because the \$33 000 profit is a slightly higher return on the \$300 000 asset base). But because the owner's share of the financing grew so much, the same-style profit is now spread over a **much larger owner's base**, so the return **per dollar of the owner's capital fell** — the gap between ROI and ROA narrowed from $\times 2$ to about $\times 1.4$. Reducing gearing lowered the business's risk, but it

also gave up some of the leverage that had lifted ROI above ROA; a rising ROA can therefore sit alongside a falling ROI whenever an owner de-gears the business.

Question 18

Both proposals would breach **faithful representation**, which requires the information used to build the ratios to be **complete, free from material error and neutral (without bias)**. **Not recording the \$6 000 inventory loss** would leave net profit and closing inventory **overstated** — the numerator of both ratios (net profit) too high, and the asset base misstated — so the recorded loss is deliberately omitted to flatter the figures. **Including the owner's private car** overstates the business's assets and breaches the **entity assumption**, which requires the records to report the transactions and resources of the *business* separately from the personal assets of the owner. Both changes are designed to make the Return on Owner's Investment and Return on Assets look **better than the business's true performance** — a higher net profit lifts both ratios, and the manipulation presents the business as more profitable than it is.

Consequence for the lender or buyer: relying on the inflated ratios, the **bank may approve a loan** it would otherwise decline (or lend on better terms than the true profitability warrants), and the **prospective buyer may pay a price** based on profitability the business has not actually achieved — each misled into a decision the real figures would not support.

Consequence for the business itself: the manipulation changes nothing real — the \$6 000 of inventory is still gone and the car still belongs to the owner — so the business is left carrying debt it may not be able to service, or has been sold on a false premise. When the true position emerges (the inventory loss surfaces at the next count, or the buyer discovers the private car), the business will have **damaged its relationship with the bank and its reputation**, and may face a recalled loan or a collapsed sale. Honest, verifiable figures are essential: profitability ratios built on overstated profit and assets mislead the very people whose finance and custom the business depends on.

Chapter 18 Evaluating performance — 18C Asset Turnover, Net Profit Margin and Gross Profit Margin

Theory

A dollar figure on its own says very little about how well a business is performing. A **net profit of \$150 000** sounds healthy, but is it? A large business will earn more profit than a small one simply because it sells more and owns more — so to judge **how profitably and how productively** a business has actually traded, the results of the year are related back to the things that produced them: to **sales** and to the **assets** the business controls. This section calculates and interprets three of the key **profitability indicators** — the **Gross Profit Margin**, the **Net Profit Margin** and the **Asset Turnover** — and then shows how the first and the last combine to explain the **Return on Assets**.

Gross Profit Margin. The **Gross Profit Margin (GPM)** measures how many cents of every sales dollar are left as **gross profit** once the cost of the inventory sold has been covered:

$$\text{Gross Profit Margin} = \frac{\text{gross profit}}{\text{net sales}} \times 100$$

It is a **percentage**, conventionally quoted to one decimal place. A GPM of **40.0%** means the business keeps **40 cents of gross profit in every sales dollar**. The GPM reflects the relationship between **selling prices and cost prices** — the size of the **mark-up**. It will *fall* if cost prices rise while selling prices do not, or if the business discounts its selling prices; it will *rise* if the business buys more cheaply or lifts its selling prices.

Net Profit Margin. The **Net Profit Margin (NPM)** measures how many cents of every sales dollar survive as **net profit** once **every** expense — cost of sales *and* all the other operating expenses — has been met:

$$\text{Net Profit Margin} = \frac{\text{net profit}}{\text{net sales}} \times 100$$

It is also a **percentage** to one decimal place. An NPM of **15.0%** means the business keeps **15 cents of net profit in every sales dollar**. Because the NPM takes *every* expense into account, it is always **lower** than the GPM (unless there is other revenue).

Reading the two margins together — the gap. The two margins are most powerful when read **side by side**, because the **gap between them** has a precise meaning: it is the business's **other expenses expressed as a percentage of net sales**. If GPM is 40.0% and NPM is 15.0%, the **25.0-point gap** is the share of every sales dollar swallowed by wages, rent, advertising, interest and the other operating expenses. This makes the pair a **diagnostic tool** — when profitability changes, comparing the two margins locates *where* the change came from:

- If the **GPM itself falls**, the problem is in the **trading margin** — cost prices have risen relative to selling prices, or selling prices have been cut — and this usually drags the NPM down with it.
- If the **GPM holds steady but the NPM falls**, the trading margin is intact, so the problem lies in the **other expenses**: the gap has widened because those expenses have grown faster than sales.

Diagnosing a fall this way tells the owner **what to fix** — buying or pricing (a gross-margin problem) or expense control (an other-expenses problem) — rather than simply that profit is down.

Asset Turnover. Profitability is not only about the margin on each sale; it is also about how **hard the assets work**. The **Asset Turnover (ATO)** measures how **productively** a business uses its assets to generate **sales** — how many dollars of net sales it squeezes from every dollar invested in assets:

$$\text{Asset Turnover} = \frac{\text{net sales}}{\text{average total assets}}$$

It is expressed as a number of **times**, conventionally to one decimal place. An Asset Turnover of **2.0 times** means the business generated **\$2.00 of net sales for every \$1.00 of average assets**. The higher the Asset Turnover, the harder each asset dollar is working to produce sales.

Why “average” total assets. Sales are earned **across the whole year**, but a Balance Sheet reports assets on a **single day**. If the asset base changed during the year — as it does whenever a business buys or sells non-current assets, or its

inventory and bank balance rise and fall — matching a full year’s sales against the closing figure alone would distort the comparison. So the Asset Turnover divides by the **average** of the opening and closing totals:

$$\text{Average total assets} = \frac{\text{total assets (opening)} + \text{total assets (closing)}}{2}$$

where **total assets (opening)** is the figure from the *previous* Balance Sheet and **total assets (closing)** is the figure at the *end* of the current period.

The link: Return on Assets = Net Profit Margin × Asset Turnover. The broadest measure of profitability is the **Return on Assets (ROA)** — the net profit earned on every dollar of average assets, quoted as a percentage. The ROA is not a separate, unrelated indicator: it is exactly the **product** of the Net Profit Margin and the Asset Turnover, because the net-sales figure cancels between them:

$$\text{ROA} = \frac{\text{net profit}}{\text{average total assets}} = \frac{\text{net profit}}{\text{net sales}} \times \frac{\text{net sales}}{\text{average total assets}} = \text{NPM} \times \text{ATO}$$

In one-decimal terms the identity is simply **Return on Assets (%) = Net Profit Margin (%) × Asset Turnover (times)**: an NPM of 15.0% and an ATO of 2.0 times give an ROA of **30.0%**. This is the single most useful idea in profitability analysis, because it shows there are **two levers** that drive the return a business earns on its assets:

- the **margin lever** — how many cents of profit it keeps from each sales dollar (**NPM**); and
- the **turnover lever** — how many sales dollars it generates from each asset dollar (**ATO**).

A business can earn the same ROA by very different routes: a jeweller keeps a **high margin** on a **slow** turnover, while a supermarket keeps a **thin margin** on a **fast** turnover. It also shows the owner **how to lift the ROA** — either widen the margin (raise selling prices, cut cost of sales or control other expenses) or work the assets harder (lift sales from the same asset base, or shed under-used assets).

A single figure is never “good” or “bad” until it is **compared** — with the same business in an earlier period, with its budget, or with a similar business — and comparisons must be made between **like and like** (the qualitative characteristic of **comparability**): a small retailer’s indicators should be judged against its own past or a similar retailer, not against a business of a completely different type.

Ethical considerations. These indicators are read by outsiders — most often a **lender** deciding whether to advance finance, or a prospective **buyer** valuing the business — so the owner has an ethical duty to build them on a **faithful representation** of the results — complete, free from material error and neutral (without bias). Because the ROA and the margins are all driven by **net profit**, the temptation is to make net profit look larger than it truly is. Two common manipulations do exactly that. First, **omitting or deferring expenses** that have been incurred — leaving wages or an advertising invoice owing at balance day unrecorded — understates expenses, so it **inflates net profit, the Net Profit Margin and the Return on Assets**, and narrows the gap between the two margins to make expense control look better than it is; under the **accrual basis**, an expense must be recorded when it is *incurred*, not when it is paid. Second, **overstating closing inventory** lowers cost of sales, inflating gross profit, the Gross Profit Margin, net profit and every indicator built on them. Both choices give a lender or buyer an inflated picture, may lead to funds being advanced that the business cannot service, and damage the owner’s reputation once the true position emerges. Ethical reporting records every expense and asset completely and honestly, and lets the reader judge the business on its **real** performance.

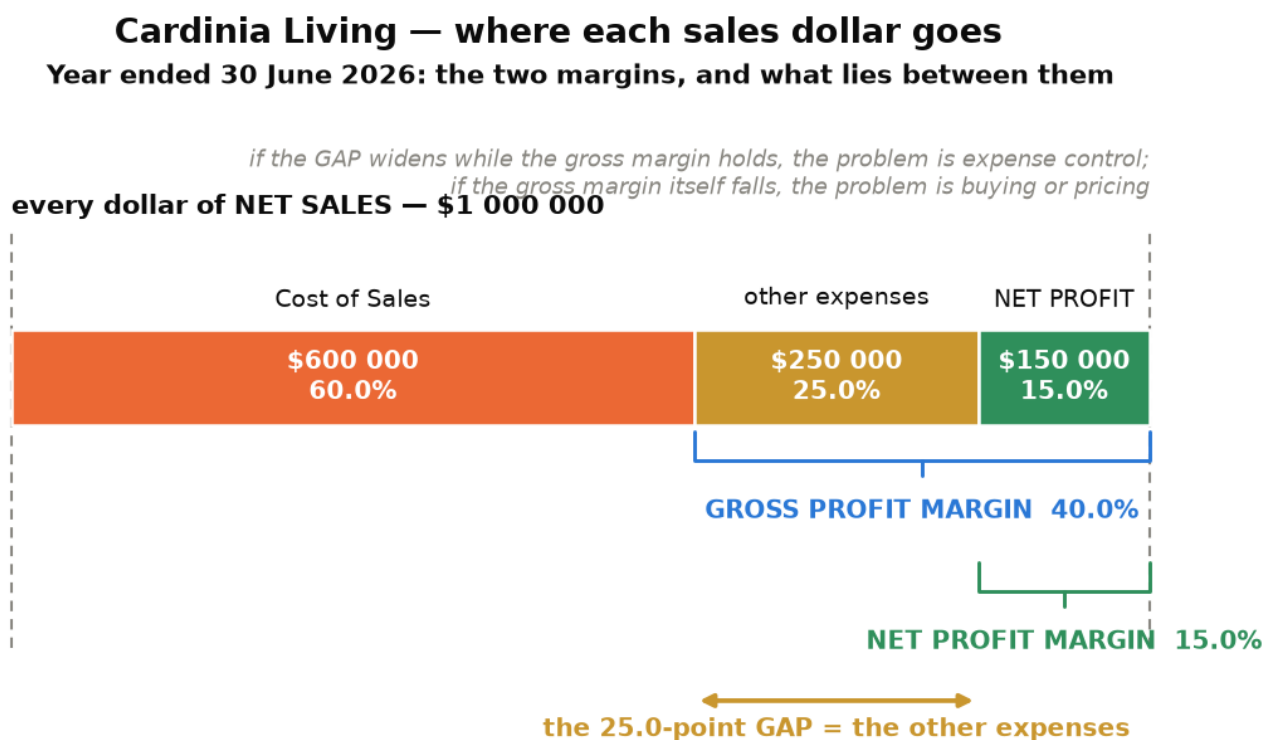
Worked model. Cardinia Living is a trading business. For the year ended 30 June 2026 it reported **Sales of \$1 050 000** and **Sales Returns of \$50 000** (so **net sales of \$1 000 000**), **Cost of Sales of \$600 000** (so **gross profit of \$400 000**) and **other expenses of \$250 000** (so **net profit of \$150 000**). Its **total assets were \$480 000** at 1 July 2025 and **\$520 000** at 30 June 2026. Its indicator schedule is:

Cardinia Living — year ended 30 June 2026	Figure
Net sales	\$1 000 000
Gross profit	\$400 000
Net profit	\$150 000
Total assets (opening, 1 Jul 2025)	\$480 000

Total assets (closing, 30 Jun 2026)	\$520 000
Average total assets = $(\$480\,000 + \$520\,000) \div 2$	\$500 000
Gross Profit Margin = $(\$400\,000 \div \$1\,000\,000) \times 100$	40.0%
Net Profit Margin = $(\$150\,000 \div \$1\,000\,000) \times 100$	15.0%
Asset Turnover = $\$1\,000\,000 \div \$500\,000$	2.0 times
Return on Assets = $\text{NPM} \times \text{ATO} = 15.0\% \times 2.0$	30.0%

Cardinia keeps **40 cents of gross profit** and **15 cents of net profit** in every sales dollar; the **25.0-point gap** is its other expenses, which consume 25 cents of each sales dollar ($\$250\,000 \div \$1\,000\,000 = 25.0\%$). Each dollar of average assets generates **\$2.00 of sales** and earns **30 cents of net profit** — and that 30.0% Return on Assets is exactly the 15.0% margin multiplied by the 2.0-times turnover.

Dividing the sales dollar once, and measuring both margins against it, shows what the gap between them actually is:



Cardinia Living — where each sales dollar goes, year ended 30 June 2026

Both margins are measured from the **same right-hand end** of the bar, which is why they can be compared directly: the Gross Profit Margin spans everything left after Cost of Sales (40.0%), the Net Profit Margin everything left after all expenses (15.0%), and the stretch between the two spans is the **other expenses** segment — 25.0 cents in every sales dollar. That is the diagnostic: if the gap widens while the gross margin holds its position, expense control is the problem; if the whole gross-margin span shortens, buying or pricing is.

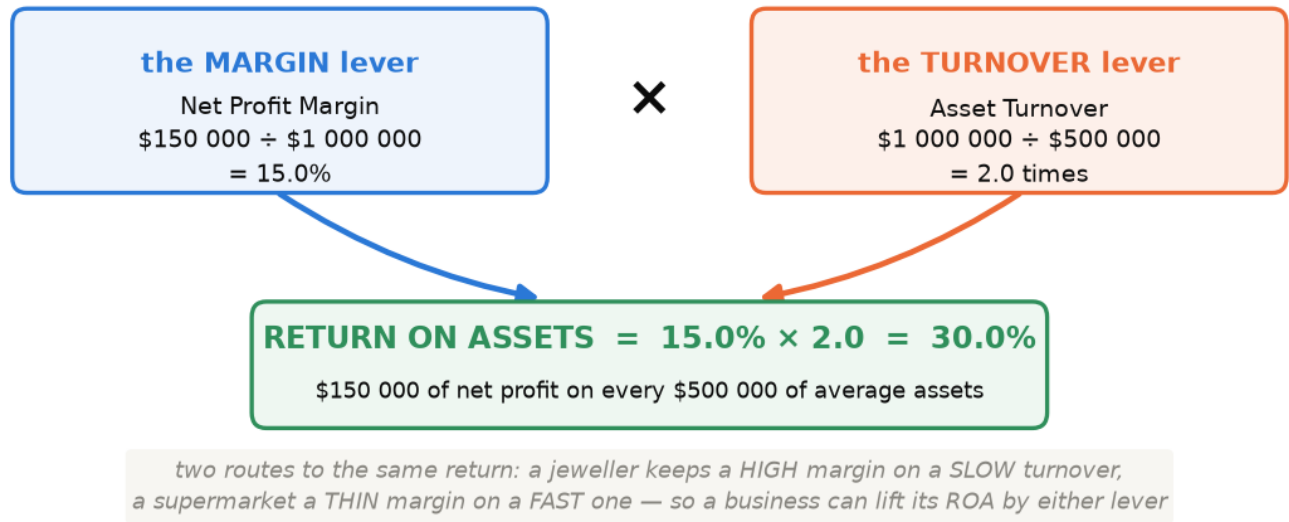
The Return on Assets is then just the two indicators multiplied together:

Cardinia Living — the two levers behind the return

$$\text{Return on Assets} = \text{Net Profit Margin} \times \text{Asset Turnover}$$

net sales cancels between the two levers, which is why their product is the Return on Assets:

$$\text{net profit} \div \text{net sales} \times \text{net sales} \div \text{average assets} = \text{net profit} \div \text{average assets}$$



Cardinia Living — $\text{Return on Assets} = \text{Net Profit Margin} \times \text{Asset Turnover}$

Net sales appears in the bottom of the margin and the top of the turnover, so it **cancels**, leaving net profit over average assets — the definition of the Return on Assets. This is why the identity is not a coincidence to memorise but an arithmetic fact, and why there are exactly **two levers** on the return: a business lifts its ROA either by keeping more of each sales dollar or by squeezing more sales from each asset dollar.

Worked examples (scaffolded)

Example 1 — calculating the Asset Turnover, Net Profit Margin and Gross Profit Margin

Rosanna Retail is a trading business. For the year ended 30 June 2026 it reported Sales \$640 000, Sales Returns \$40 000, Cost of Sales \$360 000 and other expenses \$168 000. Its total assets were \$380 000 at 1 July 2025 and \$420 000 at 30 June 2026. Calculate the Gross Profit Margin, the Net Profit Margin and the Asset Turnover, and interpret each.

Working	Comment
Net Sales = \$640 000 – \$40 000 = \$600 000 .	Sales less Sales Returns is the revenue actually earned.
Gross Profit = \$600 000 – \$360 000 = \$240 000 .	Net Sales less Cost of Sales.
Net Profit = \$240 000 – \$168 000 = \$72 000 .	Gross Profit less the other expenses.
Average total assets = (\$380 000 + \$420 000) ÷ 2 = \$400 000 .	Add opening and closing totals and halve.
GPM = (\$240 000 ÷ \$600 000) × 100 = 40.0% .	40 cents of gross profit in every sales dollar.
NPM = (\$72 000 ÷ \$600 000) × 100 = 12.0% .	12 cents of net profit in every sales dollar.
ATO = \$600 000 ÷ \$400 000 = 1.5 times .	\$1.50 of net sales for every \$1.00 of average assets.

∴ Rosanna keeps 40 cents of gross profit and 12 cents of net profit from each sales dollar — the 28.0-point gap is its other expenses — and turns each dollar of assets into \$1.50 of sales.

Example 2 — the Return on Assets is the product of the two levers (ROA = NPM × ATO)

Bendale Bathrooms is a trading business. For the year ended 30 June 2026 it reported net sales of \$900 000, gross profit of \$360 000 and net profit of \$135 000, on average total assets of \$500 000. Calculate the Net Profit Margin and the Asset Turnover, and use them to calculate the Return on Assets; then confirm the result directly.

Working	Comment
$\text{NPM} = (\$135\,000 \div \$900\,000) \times 100 = \mathbf{15.0\%}$.	The margin lever — profit kept per sales dollar.
$\text{ATO} = \$900\,000 \div \$500\,000 = \mathbf{1.8 \text{ times}}$.	The turnover lever — sales made per asset dollar.
$\text{ROA} = \text{NPM} \times \text{ATO} = 15.0\% \times 1.8 = \mathbf{27.0\%}$.	The two levers multiply to give the return on assets.
<i>Check directly:</i> $\text{ROA} = (\$135\,000 \div \$500\,000) \times 100 = \mathbf{27.0\%}$.	Net profit ÷ average assets gives the same 27.0% — the net-sales figure cancels.

∴ Bendale earns a Return on Assets of 27.0%, which is exactly its 15.0% Net Profit Margin multiplied by its 1.8-times Asset Turnover; to lift the ROA it could widen the margin, work the assets harder, or both.

Worked examples (unscaffolded)

Example 3 — the same Return on Assets reached by two different routes

Kingsville Kitchenware and Preston Provisions each earned a Return on Assets of 26.0% for the year ended 30 June 2026, but they trade very differently. Kingsville reported net sales of \$600 000, gross profit of \$255 000 and net profit of \$78 000 on average total assets of \$300 000; Preston reported net sales of \$1 000 000, gross profit of \$250 000 and net profit of \$52 000 on average total assets of \$200 000. Calculate each business's Gross Profit Margin, Net Profit Margin, Asset Turnover and Return on Assets, and explain how the same Return on Assets is achieved.

Kingsville's GPM is $(\$255\,000 \div \$600\,000) \times 100 = \mathbf{42.5\%}$, its NPM is $(\$78\,000 \div \$600\,000) \times 100 = \mathbf{13.0\%}$, and its ATO is $\$600\,000 \div \$300\,000 = \mathbf{2.0 \text{ times}}$, so its ROA is $13.0\% \times 2.0 = \mathbf{26.0\%}$. Preston's GPM is $(\$250\,000 \div \$1\,000\,000) \times 100 = \mathbf{25.0\%}$, its NPM is $(\$52\,000 \div \$1\,000\,000) \times 100 = \mathbf{5.2\%}$, and its ATO is $\$1\,000\,000 \div \$200\,000 = \mathbf{5.0 \text{ times}}$, so its ROA is $5.2\% \times 5.0 = \mathbf{26.0\%}$.

Indicator	Kingsville Kitchenware	Preston Provisions
Gross Profit Margin	42.5%	25.0%
Net Profit Margin	13.0%	5.2%
Asset Turnover	2.0 times	5.0 times
Return on Assets	26.0%	26.0%

∴ both businesses earn 26 cents of net profit on every asset dollar, but by opposite strategies: Kingsville keeps a **high margin** (13 cents per sales dollar) on a **slow** turnover (2.0 times), while Preston keeps a **thin margin** (5.2 cents per sales dollar) on a **fast** turnover (5.0 times). The margin and the turnover levers are different, yet their product — the Return on Assets — is the same.

Example 4 — diagnosing a fall in profitability

Hawthorn Hardware is a trading business. For the year ended 30 June 2025 it reported net sales of \$500 000, gross profit of \$225 000 and net profit of \$75 000; for the year ended 30 June 2026 it reported net sales of \$550 000, gross profit of \$220 000 and net profit of \$55 000. Calculate the Gross Profit Margin and the Net Profit Margin for each year and identify where the fall in profitability came from.

In 2025 the GPM is $(\$225\,000 \div \$500\,000) \times 100 = \mathbf{45.0\%}$ and the NPM is $(\$75\,000 \div \$500\,000) \times 100 = \mathbf{15.0\%}$, a gap of 30.0 points (other expenses $\$150\,000 \div \$500\,000 = 30.0\%$). In 2026 the GPM is $(\$220\,000 \div \$550\,000) \times 100 = \mathbf{40.0\%}$ and the NPM is $(\$55\,000 \div \$550\,000) \times 100 = \mathbf{10.0\%}$, a gap still of 30.0 points (other expenses $\$165\,000 \div \$550\,000 = 30.0\%$).

Hawthorn Hardware	2025	2026
Gross Profit Margin	45.0%	40.0%
Net Profit Margin	15.0%	10.0%
Gap (other expenses)	30.0%	30.0%

∴ the Net Profit Margin fell by 5.0 points, and the diagnosis is clear: the **gap held steady at 30.0%**, so the other expenses are **not** the cause — the whole fall sits in the **Gross Profit Margin** (45.0% → 40.0%). Cost of sales has

risen relative to selling prices (or selling prices have been discounted), so the business should look to its buying and pricing, not its expense control.

Practice questions — scaffolded

Question 1

Yarraville Yarns is a trading business. For the year ended 30 June 2026 it reported net sales of \$800 000, gross profit of \$280 000 and net profit of \$88 000. Its total assets were \$310 000 at 1 July 2025 and \$330 000 at 30 June 2026.

- Calculate the Gross Profit Margin.
- Calculate the Net Profit Margin.
- Calculate the average total assets and the Asset Turnover.

Question 2

Murrumbena Menswear, a trading business, reports for the year ended 30 June 2026: Sales \$740 000; Sales Returns \$40 000; Cost of Sales \$434 000; and expenses of Wages \$100 000, Rent expense \$44 000, Advertising \$24 000 and Interest expense \$14 000.

- Calculate Net Sales, Gross Profit and Net Profit.
- Calculate the Gross Profit Margin and the Net Profit Margin.
- State the gap between the two margins and explain in one sentence what it represents.

Question 3

Doncaster Decor, a trading business, reported net sales of \$1 200 000 and a net profit of \$132 000 for the year ended 30 June 2026. Its total assets were \$550 000 at 1 July 2025 and \$650 000 at 30 June 2026.

- Calculate the average total assets.
- Calculate the Asset Turnover and the Net Profit Margin.
- Calculate the Return on Assets using the link $ROA = NPM \times ATO$.

Question 4

Brunswick Bedding, a trading business, reports net sales \$600 000, gross profit \$240 000 and net profit \$90 000 for the year ended 30 June 2025, and net sales \$700 000, gross profit \$280 000 and net profit \$70 000 for the year ended 30 June 2026.

- Calculate the Gross Profit Margin for each year.
- Calculate the Net Profit Margin for each year.
- State where the fall in profitability has come from, and identify what must have happened to the other expenses.

Question 5

Coburg Cookware, a trading business, reported an Asset Turnover of 2.5 times for the year ended 30 June 2026, on net sales of \$750 000. Its Net Profit Margin for the year was 8.0%.

- Calculate the average total assets.
- Calculate the net profit.
- Calculate the Return on Assets using the link $ROA = NPM \times ATO$.

Question 6

Ivanhoe Interiors and Northcote Homewares are two trading businesses, each with net sales of \$500 000 for the year ended 30 June 2026. Ivanhoe reports gross profit \$225 000 and net profit \$50 000, on average total assets of \$250 000; Northcote reports gross profit \$200 000 and net profit \$60 000, on average total assets of \$200 000.

- Calculate the Gross Profit Margin and the Net Profit Margin for each business.
- Calculate the Asset Turnover and the Return on Assets for each business.
- State which business is more profitable overall, and give one reason drawn from the indicators.

Practice questions — unscaffolded

Question 7

Reservoir Rugs, a trading business, reported net sales of \$900 000, gross profit of \$387 000 and net profit of \$144 000 for the year ended 30 June 2026. Its total assets were \$460 000 at 1 July 2025 and \$540 000 at 30 June 2026. Calculate the Gross Profit Margin, the Net Profit Margin and the Asset Turnover, and state what each indicator means.

Question 8

Footscray Furnishings, a trading business, reports for the year ended 30 June 2026: Sales \$780 000; Sales Returns \$30 000; Cost of Sales \$480 000; and expenses of Wages \$95 000, Rent expense \$40 000, Advertising \$18 000 and Interest expense \$12 000. Its total assets were \$270 000 at 1 July 2025 and \$330 000 at 30 June 2026. Calculate Net Sales, Gross Profit and Net Profit, then the Gross Profit Margin, the Net Profit Margin, the Asset Turnover and the Return on Assets.

Question 9

Glenferrie Glassware, a trading business, reported net sales of \$800 000, gross profit of \$320 000 and net profit of \$64 000 for the year ended 30 June 2026, on average total assets of \$400 000. Calculate the Net Profit Margin, the Asset Turnover and the Return on Assets, and explain, referring to the link $ROA = NPM \times ATO$, the two levers by which the business could raise its Return on Assets.

Question 10

Templestowe Tiles and Sunshine Supplies each earned a Return on Assets of 18.0% for the year ended 30 June 2026. Templestowe reported net sales \$600 000, net profit \$54 000 and average total assets \$300 000; Sunshine reported net sales \$800 000, net profit \$36 000 and average total assets \$200 000. Calculate the Net Profit Margin and the Asset Turnover for each business, and discuss how two businesses can earn the same Return on Assets while trading very differently.

Question 11

Altona Appliances, a trading business, reports net sales \$600 000, gross profit \$228 000 and net profit \$84 000 for the year ended 30 June 2025, and net sales \$750 000, gross profit \$255 000 and net profit \$75 000 for the year ended 30 June 2026. Calculate the Gross Profit Margin and the Net Profit Margin for each year, and explain where the fall in the Net Profit Margin has come from.

Question 12

Werribee Wares, a trading business, reports net sales \$400 000, gross profit \$140 000 and net profit \$48 000 for the year ended 30 June 2025, and net sales \$500 000, gross profit \$175 000 and net profit \$40 000 for the year ended 30 June 2026. Calculate the Gross Profit Margin and the Net Profit Margin for each year, and explain how the Net Profit Margin can fall while the Gross Profit Margin is unchanged.

Question 13

Frankston Fabrics, a trading business, reported an Asset Turnover of 1.5 times and a Net Profit Margin of 8.0% for the year ended 30 June 2026, on net sales of \$600 000. Its total assets at 30 June 2026 were \$450 000. Calculate the average total assets, the total assets at 1 July 2025, the net profit, and the Return on Assets.

Question 14

Mordialloc Marine, a trading business, reported for the year ended 30 June 2026 net sales of \$600 000, net profit of \$42 000 and average total assets of \$400 000. The owner wants to lift the Return on Assets and is weighing two options: **Option A** — cut expenses so that net profit rises to \$54 000, with net sales and average total assets unchanged; **Option B** — a marketing push that lifts net sales to \$720 000 while holding the Net Profit Margin at its current level (net profit \$50 400), with average total assets unchanged. Calculate the current Return on Assets, and the Return on Assets under each option, and discuss which lever each option uses.

Question 15

Explain each of the following in a sentence or two.

- What the Asset Turnover measures, and why it is expressed as a number of “times”.
- Why the Net Profit Margin is always lower than the Gross Profit Margin, and what the gap between them represents.
- What the link $ROA = NPM \times ATO$ shows about the two ways a business can raise its Return on Assets.
- Why a single Gross Profit Margin figure means little until it is compared, and what makes a comparison valid.

Question 16

Ashburton Athletics and Cheltenham Cycles are two trading businesses. Ashburton reported net sales \$700 000, gross profit \$280 000 and net profit \$91 000, on average total assets of \$500 000; Cheltenham reported net sales \$900 000, gross profit \$288 000 and net profit \$63 000, on average total assets of \$450 000. Both are for the year ended 30 June 2026. Calculate the Gross Profit Margin, the Net Profit Margin, the Asset Turnover and the Return on Assets for each, present them in an indicator schedule, and discuss which business trades more profitably, which works its assets harder, and which is more profitable overall.

Question 17

Elsternwick Emporium (owner J. Elsternwick), a trading business, is applying to Horizon Bank for finance. Its correct figures for the year ended 30 June 2026 are net sales \$600 000, gross profit \$240 000 and net profit \$72 000, on average total assets of \$300 000 (total assets \$280 000 opening and \$320 000 closing). Wanting the reports to look as strong as possible for the bank, the owner proposes to leave \$12 000 of wages and advertising **owing at 30 June** unrecorded, which would raise the reported net profit to \$84 000. Calculate the correct Gross Profit Margin, Net Profit Margin and Return on Assets, and the Net Profit Margin and Return on Assets the owner’s proposal would produce; then discuss the ethical considerations raised, referring to a relevant qualitative characteristic and to the effect on the bank, and state what should be done.

Question 18

Bentleigh Bathroomware (owner K. Bentleigh), a trading business, reports for the year ended 30 June 2026: Sales \$1 245 000; Sales Returns \$45 000; Cost of Sales \$696 000; and expenses of Wages \$208 000, Rent expense \$84 000, Advertising \$36 000 and Interest expense \$20 000. Its total assets were \$700 000 at 1 July 2025 and \$800 000 at 30 June 2026. Calculate Net Sales, Gross Profit and Net Profit; calculate the Gross Profit Margin, the Net Profit Margin, the Asset Turnover and the Return on Assets; present them in an indicator schedule; and interpret the business’s profitability.

Answers

1.
 - a. GPM **35.0%** b. NPM **11.0%** c. Average total assets \$320 000; ATO **2.5 times**
2.
 - a. Net Sales \$700 000; Gross Profit \$266 000; Net Profit \$84 000 b. GPM **38.0%**, NPM **12.0%** c. Gap **26.0%** — the other expenses as a share of net sales
3.
 - a. \$600 000 b. ATO **2.0 times**, NPM **11.0%** c. ROA **22.0%**
4.
 - a. GPM **40.0%** both years b. NPM **15.0%** → **10.0%** c. GPM steady → the fall is in the other expenses (gap widened 25.0% → 30.0%)
5.
 - a. \$300 000 b. \$60 000 c. ROA **20.0%**
6.
 - a. Ivanhoe GPM **45.0%**, NPM **10.0%**; Northcote GPM **40.0%**, NPM **12.0%** b. Ivanhoe ATO **2.0**, ROA **20.0%**; Northcote ATO **2.5**, ROA **30.0%** c. Northcote (higher ROA)
7. GPM **43.0%**; NPM **16.0%**; ATO **1.8 times**
8. Net Sales \$750 000; Gross Profit \$270 000; Net Profit \$105 000; GPM **36.0%**, NPM **14.0%**, ATO **2.5 times**, ROA **35.0%**
9. NPM **8.0%**; ATO **2.0 times**; ROA **16.0%**
10. Templestowe NPM **9.0%**, ATO **2.0**; Sunshine NPM **4.5%**, ATO **4.0**; both ROA **18.0%**
11. GPM **38.0%** → **34.0%**; NPM **14.0%** → **10.0%**; the fall is in the Gross Profit Margin (cost of sales)
12. GPM **35.0%** both years; NPM **12.0%** → **8.0%**; other expenses rose (gap 23.0% → 27.0%)
13. Average total assets \$400 000; total assets (opening) \$350 000; net profit \$48 000; ROA **12.0%**
14. Current ROA **10.5%**; Option A **13.5%** (margin lever); Option B **12.6%** (turnover lever)
15. See solutions
16. Ashburton GPM **40.0%**, NPM **13.0%**, ATO **1.4**, ROA **18.2%**; Cheltenham GPM **32.0%**, NPM **7.0%**, ATO **2.0**, ROA **14.0%**
17. Correct GPM **40.0%**, NPM **12.0%**, ROA **24.0%**; overstated NPM **14.0%**, ROA **28.0%** — see solutions
18. Net Sales \$1 200 000; Gross Profit \$504 000; Net Profit \$156 000; GPM **42.0%**, NPM **13.0%**, ATO **1.6 times**, ROA **20.8%**

Fully-worked solutions

Question 1

- a. $\text{Gross Profit Margin} = (\$280\,000 \div \$800\,000) \times 100 = \mathbf{35.0\%}$.
- b. $\text{Net Profit Margin} = (\$88\,000 \div \$800\,000) \times 100 = \mathbf{11.0\%}$.
- c. $\text{Average total assets} = (\$310\,000 + \$330\,000) \div 2 = \mathbf{\$320\,000}$; $\text{Asset Turnover} = \$800\,000 \div \$320\,000 = \mathbf{2.5 \text{ times}}$.

Question 2

- a. $\text{Net Sales} = \$740\,000 - \$40\,000 = \mathbf{\$700\,000}$; $\text{Gross Profit} = \$700\,000 - \$434\,000 = \mathbf{\$266\,000}$; total expenses = $\$100\,000 + \$44\,000 + \$24\,000 + \$14\,000 = \$182\,000$, so $\text{Net Profit} = \$266\,000 - \$182\,000 = \mathbf{\$84\,000}$.
- b. $\text{GPM} = (\$266\,000 \div \$700\,000) \times 100 = \mathbf{38.0\%}$; $\text{NPM} = (\$84\,000 \div \$700\,000) \times 100 = \mathbf{12.0\%}$.
- c. The gap is $38.0\% - 12.0\% = \mathbf{26.0\%}$. It represents the business's **other expenses as a percentage of net sales** — here $\$182\,000 \div \$700\,000 = 26.0\%$, the 26 cents of every sales dollar consumed by wages, rent, advertising and interest.

Question 3

- a. $\text{Average total assets} = (\$550\,000 + \$650\,000) \div 2 = \mathbf{\$600\,000}$.

- b. $\text{Asset Turnover} = \$1\,200\,000 \div \$600\,000 = \mathbf{2.0 \text{ times}}$; $\text{Net Profit Margin} = (\$132\,000 \div \$1\,200\,000) \times 100 = \mathbf{11.0\%}$.
- c. $\text{Return on Assets} = \text{NPM} \times \text{ATO} = 11.0\% \times 2.0 = \mathbf{22.0\%}$ (the same as $\$132\,000 \div \$600\,000 \times 100$).

Question 4

- a. $\text{GPM } 2025 = (\$240\,000 \div \$600\,000) \times 100 = \mathbf{40.0\%}$; $\text{GPM } 2026 = (\$280\,000 \div \$700\,000) \times 100 = \mathbf{40.0\%}$.
- b. $\text{NPM } 2025 = (\$90\,000 \div \$600\,000) \times 100 = \mathbf{15.0\%}$; $\text{NPM } 2026 = (\$70\,000 \div \$700\,000) \times 100 = \mathbf{10.0\%}$.
- c. The **Gross Profit Margin is unchanged** at 40.0%, so the trading margin is intact; the fall in profitability therefore lies in the **other expenses**. They rose from \$150 000 to \$210 000 and, as a share of net sales, from 25.0% to 30.0% — so the gap between the two margins widened from 25.0 to 30.0 points, dragging the Net Profit Margin down from 15.0% to 10.0%.

Question 5

- a. $\text{Average total assets} = \text{net sales} \div \text{Asset Turnover} = \$750\,000 \div 2.5 = \mathbf{\$300\,000}$.
- b. $\text{Net profit} = \text{Net Profit Margin} \times \text{net sales} = 8.0\% \times \$750\,000 = 0.08 \times \$750\,000 = \mathbf{\$60\,000}$.
- c. $\text{Return on Assets} = \text{NPM} \times \text{ATO} = 8.0\% \times 2.5 = \mathbf{20.0\%}$ (the same as $\$60\,000 \div \$300\,000 \times 100$).

Question 6

- a. Ivanhoe: $\text{GPM} = (\$225\,000 \div \$500\,000) \times 100 = \mathbf{45.0\%}$; $\text{NPM} = (\$50\,000 \div \$500\,000) \times 100 = \mathbf{10.0\%}$.
Northcote: $\text{GPM} = (\$200\,000 \div \$500\,000) \times 100 = \mathbf{40.0\%}$; $\text{NPM} = (\$60\,000 \div \$500\,000) \times 100 = \mathbf{12.0\%}$.
- b. Ivanhoe: $\text{ATO} = \$500\,000 \div \$250\,000 = \mathbf{2.0 \text{ times}}$; $\text{ROA} = 10.0\% \times 2.0 = \mathbf{20.0\%}$. Northcote: $\text{ATO} = \$500\,000 \div \$200\,000 = \mathbf{2.5 \text{ times}}$; $\text{ROA} = 12.0\% \times 2.5 = \mathbf{30.0\%}$.
- c. **Northcote is more profitable overall** — its Return on Assets of 30.0% beats Ivanhoe's 20.0%. Even though Ivanhoe converts sales to gross profit a little better (a 45.0% versus 40.0% GPM), Northcote keeps more net profit per sales dollar (12.0% versus 10.0% NPM) **and** works its assets harder (2.5 versus 2.0 times), so on the same sales it earns 30 cents of net profit on every asset dollar against Ivanhoe's 20 cents.

Question 7

$\text{GPM} = (\$387\,000 \div \$900\,000) \times 100 = \mathbf{43.0\%}$; $\text{NPM} = (\$144\,000 \div \$900\,000) \times 100 = \mathbf{16.0\%}$. Average total assets = $(\$460\,000 + \$540\,000) \div 2 = \$500\,000$, so $\text{ATO} = \$900\,000 \div \$500\,000 = \mathbf{1.8 \text{ times}}$. The business keeps **43 cents of gross profit** and **16 cents of net profit** in every sales dollar (the 27-cent gap is its other expenses), and generates **\$1.80 of net sales** for every \$1.00 of average assets.

Question 8

$\text{Net Sales} = \$780\,000 - \$30\,000 = \mathbf{\$750\,000}$; $\text{Gross Profit} = \$750\,000 - \$480\,000 = \mathbf{\$270\,000}$; total expenses = $\$95\,000 + \$40\,000 + \$18\,000 + \$12\,000 = \$165\,000$, so $\text{Net Profit} = \$270\,000 - \$165\,000 = \mathbf{\$105\,000}$. Average total assets = $(\$270\,000 + \$330\,000) \div 2 = \$300\,000$.

$\text{GPM} = (\$270\,000 \div \$750\,000) \times 100 = \mathbf{36.0\%}$; $\text{NPM} = (\$105\,000 \div \$750\,000) \times 100 = \mathbf{14.0\%}$; $\text{ATO} = \$750\,000 \div \$300\,000 = \mathbf{2.5 \text{ times}}$; $\text{ROA} = \text{NPM} \times \text{ATO} = 14.0\% \times 2.5 = \mathbf{35.0\%}$.

Question 9

$\text{NPM} = (\$64\,000 \div \$800\,000) \times 100 = \mathbf{8.0\%}$; $\text{ATO} = \$800\,000 \div \$400\,000 = \mathbf{2.0 \text{ times}}$; $\text{ROA} = \text{NPM} \times \text{ATO} = 8.0\% \times 2.0 = \mathbf{16.0\%}$.

The link $\text{ROA} = \text{NPM} \times \text{ATO}$ shows there are **two levers** for lifting the Return on Assets. The first is the **margin lever (NPM)**: keeping more cents of net profit in each sales dollar, by raising selling prices, buying inventory more cheaply or controlling the other expenses. The second is the **turnover lever (ATO)**: generating more sales from the same asset base, by lifting sales or by shedding under-used assets. Glenferrie could raise its 16.0% Return on Assets by improving either lever — for instance, lifting the NPM to 10.0% (holding ATO at 2.0) would give an ROA of 20.0%, and so would lifting the ATO to 2.5 (holding NPM at 8.0%).

Question 10

Templestowe: $\text{NPM} = (\$54\,000 \div \$600\,000) \times 100 = \mathbf{9.0\%}$; $\text{ATO} = \$600\,000 \div \$300\,000 = \mathbf{2.0 \text{ times}}$; $\text{ROA} = 9.0\% \times 2.0 = \mathbf{18.0\%}$. Sunshine: $\text{NPM} = (\$36\,000 \div \$800\,000) \times 100 = \mathbf{4.5\%}$; $\text{ATO} = \$800\,000 \div \$200\,000 = \mathbf{4.0 \text{ times}}$; $\text{ROA} = 4.5\% \times 4.0 = \mathbf{18.0\%}$.

Both businesses earn the **same 18.0% Return on Assets**, but by opposite strategies, because the ROA is the **product** of the margin and the turnover. Templestowe keeps a **higher margin** — 9 cents of net profit in every sales dollar — but turns its assets over **slowly**, at 2.0 times, the pattern of a business selling higher-value goods less frequently. Sunshine keeps only **half the margin** — 4.5 cents per sales dollar — but turns its assets over **twice as fast**, at 4.0 times, the pattern of a high-volume, low-margin operation. Neither is “better” on the Return on Assets alone: the same 18.0% is reached by a high-margin/low-turnover route and a low-margin/high-turnover route, and only a comparison of **like with like** (a similar business, or the same business over time) would say whether each is performing well for its type.

Question 11

$\text{GPM } 2025 = (\$228\,000 \div \$600\,000) \times 100 = \mathbf{38.0\%}$; $\text{GPM } 2026 = (\$255\,000 \div \$750\,000) \times 100 = \mathbf{34.0\%}$. $\text{NPM } 2025 = (\$84\,000 \div \$600\,000) \times 100 = \mathbf{14.0\%}$; $\text{NPM } 2026 = (\$75\,000 \div \$750\,000) \times 100 = \mathbf{10.0\%}$.

The Net Profit Margin fell by 4.0 points, from 14.0% to 10.0%, and the diagnosis points to the **Gross Profit Margin**, which fell by the same 4.0 points (38.0% → 34.0%). The **gap between the two margins held steady at 24.0%** in both years (other expenses were $\$144\,000 \div \$600\,000 = 24.0\%$ in 2025 and $\$180\,000 \div \$750\,000 = 24.0\%$ in 2026), so the other expenses are **not** the cause. The entire fall came from the **trading margin** — cost of sales rose relative to selling prices, or selling prices were discounted — which carried straight through to the Net Profit Margin. The business should review its buying costs and pricing rather than its operating expenses.

Question 12

$\text{GPM } 2025 = (\$140\,000 \div \$400\,000) \times 100 = \mathbf{35.0\%}$; $\text{GPM } 2026 = (\$175\,000 \div \$500\,000) \times 100 = \mathbf{35.0\%}$. $\text{NPM } 2025 = (\$48\,000 \div \$400\,000) \times 100 = \mathbf{12.0\%}$; $\text{NPM } 2026 = (\$40\,000 \div \$500\,000) \times 100 = \mathbf{8.0\%}$.

The **Gross Profit Margin is unchanged** at 35.0%, so the trading margin — the relationship between selling and cost prices — held firm even as sales grew. Yet the **Net Profit Margin fell** by 4.0 points, from 12.0% to 8.0%. This is only possible if the **other expenses grew faster than sales**: as a share of net sales they rose from $\$92\,000 \div \$400\,000 = 23.0\%$ in 2025 to $\$135\,000 \div \$500\,000 = 27.0\%$ in 2026, so the gap between the two margins widened from 23.0 to 27.0 points. A steady gross margin with a falling net margin is the signature of an **other-expenses problem** — the business is trading as profitably per dollar as before but keeping less of it after operating costs, and should review those expenses.

Question 13

Average total assets = net sales $\div$ Asset Turnover = $\$600\,000 \div 1.5 = \mathbf{\$400\,000}$. Because average total assets = (opening + closing) $\div$ 2, opening total assets = $(2 \times \$400\,000) - \text{closing } \$450\,000 = \$800\,000 - \$450\,000 = \mathbf{\$350\,000}$. Net profit = Net Profit Margin $\times$ net sales = $8.0\% \times \$600\,000 = \mathbf{\$48\,000}$. Return on Assets = $\text{NPM} \times \text{ATO} = 8.0\% \times 1.5 = \mathbf{12.0\%}$ (the same as $\$48\,000 \div \$400\,000 \times 100$).

Question 14

Current Return on Assets: $\text{NPM} = (\$42\,000 \div \$600\,000) \times 100 = 7.0\%$; $\text{ATO} = \$600\,000 \div \$400\,000 = 1.5 \text{ times}$; $\text{ROA} = 7.0\% \times 1.5 = \mathbf{10.5\%}$.

Option A — net profit rises to \$54 000 on unchanged sales and assets: $\text{NPM} = (\$54\,000 \div \$600\,000) \times 100 = 9.0\%$; ATO stays at 1.5 times; $\text{ROA} = 9.0\% \times 1.5 = \mathbf{13.5\%}$. This uses the **margin lever** — the same assets and sales, but more profit kept from each sales dollar.

Option B — net sales rise to \$720 000 with the margin held (net profit \$50 400) and assets unchanged: $\text{NPM} = (\$50\,400 \div \$720\,000) \times 100 = 7.0\%$; $\text{ATO} = \$720\,000 \div \$400\,000 = 1.8 \text{ times}$; $\text{ROA} = 7.0\% \times 1.8 = \mathbf{12.6\%}$. This uses the **turnover lever** — the same margin, but more sales squeezed from the same asset base.

Both options lift the Return on Assets above the current 10.5%: Option A to 13.5% by widening the margin, Option B to 12.6% by working the assets harder. On these figures Option A gives the larger improvement, but the decision should also weigh how realistic each is — whether expenses can truly be cut without harming the business (Option A), and whether the marketing push will in fact deliver the extra sales (Option B) — and the two levers could of course be pursued together.

Question 15

- The **Asset Turnover** measures how productively a business uses its assets to generate sales — the net sales earned for every dollar of average total assets. It is expressed as a number of “**times**” because it is net sales *divided by* average total assets, both in dollars, so the dollars cancel and the result is a pure ratio: an Asset Turnover of 2.0 “times” means \$2.00 of sales per \$1.00 of assets.
- The **Net Profit Margin** is always lower than the **Gross Profit Margin** because the gross margin is struck after only the cost of sales, whereas the net margin is struck after the cost of sales **and** all the other expenses. The **gap between them** is therefore the business’s **other expenses expressed as a percentage of net sales** — the share of each sales dollar consumed by wages, rent, advertising, interest and the like.
- The link **ROA = NPM × ATO** shows that the Return on Assets is driven by **two levers**, so there are **two ways to raise it**: widen the **margin** (a higher Net Profit Margin — by lifting selling prices, lowering cost of sales, or controlling other expenses) or lift the **turnover** (a higher Asset Turnover — by generating more sales from the same assets, or by shedding under-used assets). A business can improve its Return on Assets through either lever, or both.
- A **single Gross Profit Margin figure means little in isolation** because there is nothing to say whether it is high or low; it becomes meaningful only when **compared** — with the same business’s earlier periods, with its budget, or with a similar business. A comparison is valid only when made between **like and like** (the qualitative characteristic of **comparability**): the same business over time, or businesses of a similar type and size using the same accounting methods.

Question 16

Ashburton: $GPM = (\$280\,000 \div \$700\,000) \times 100 = 40.0\%$; $NPM = (\$91\,000 \div \$700\,000) \times 100 = 13.0\%$; $ATO = \$700\,000 \div \$500\,000 = 1.4 \text{ times}$; $ROA = 13.0\% \times 1.4 = 18.2\%$. Cheltenham: $GPM = (\$288\,000 \div \$900\,000) \times 100 = 32.0\%$; $NPM = (\$63\,000 \div \$900\,000) \times 100 = 7.0\%$; $ATO = \$900\,000 \div \$450\,000 = 2.0 \text{ times}$; $ROA = 7.0\% \times 2.0 = 14.0\%$.

Indicator	Ashburton Athletics	Cheltenham Cycles
Gross Profit Margin	40.0%	32.0%
Net Profit Margin	13.0%	7.0%
Asset Turnover	1.4 times	2.0 times
Return on Assets	18.2%	14.0%

Ashburton trades more profitably: its Gross Profit Margin (40.0% versus 32.0%) and its Net Profit Margin (13.0% versus 7.0%) are both higher, so it keeps more of every sales dollar as profit — a bigger mark-up and tighter expense control. **Cheltenham works its assets harder**: its Asset Turnover of 2.0 times beats Ashburton’s 1.4, so it squeezes \$2.00 of sales from each asset dollar against Ashburton’s \$1.40. Overall, though, **Ashburton is more profitable**, with a Return on Assets of 18.2% against Cheltenham’s 14.0%: Ashburton’s margin advantage (13.0% versus 7.0%) more than offsets Cheltenham’s turnover advantage (2.0 versus 1.4 times), because $13.0\% \times 1.4 = 18.2\%$ exceeds $7.0\% \times 2.0 = 14.0\%$. This is the **ROA = NPM × ATO** link in action — the stronger *combination* of the two levers wins, not the stronger single lever.

Question 17

Correctly, $GPM = (\$240\,000 \div \$600\,000) \times 100 = 40.0\%$, $NPM = (\$72\,000 \div \$600\,000) \times 100 = 12.0\%$, and, with average total assets of \$300 000 giving an Asset Turnover of $\$600\,000 \div \$300\,000 = 2.0 \text{ times}$, $ROA = 12.0\% \times 2.0 = 24.0\%$. If the owner leaves the \$12 000 of wages and advertising owing unrecorded, net profit is overstated at \$84 000, so the reported NPM becomes $(\$84\,000 \div \$600\,000) \times 100 = 14.0\%$ and the reported ROA becomes $14.0\% \times 2.0$

= **28.0%**. (The Gross Profit Margin is unaffected at 40.0%, because the omitted items are other expenses, not cost of sales — the manipulation simply narrows the gap between the margins from 28.0 to 26.0 points.)

The proposal breaches the owner’s ethical duty to present the reports as a **faithful representation** — complete, free from material error and neutral (without bias) — and offends the **accrual basis**, under which an expense must be recorded in the period it is **incurred**, regardless of whether it has been paid. The \$12 000 of wages and advertising was consumed during the year, so leaving it out **understates expenses and overstates net profit**, inflating the Net Profit Margin from a true 12.0% to a flattering 14.0% and the Return on Assets from 24.0% to 28.0%, while also understating a current liability (the amount owing) in the Balance Sheet. **Horizon Bank** relies on these indicators to judge how profitably the business trades and whether it can service a loan; acting on the inflated 14.0% margin and 28.0% Return on Assets, it could advance finance the business cannot in fact repay, exposing the bank to loss and the owner to loss of trust and possible legal consequences once the true position emerges. The owner should **record the \$12 000 owing**, report the true Net Profit Margin of **12.0%** and Return on Assets of **24.0%**, and present the bank with honest figures.

Question 18

Net Sales = \$1 245 000 – \$45 000 = **\$1 200 000**; Gross Profit = \$1 200 000 – \$696 000 = **\$504 000**; total expenses = \$208 000 + \$84 000 + \$36 000 + \$20 000 = \$348 000, so Net Profit = \$504 000 – \$348 000 = **\$156 000**. Average total assets = (\$700 000 + \$800 000) ÷ 2 = \$750 000.

GPM = (\$504 000 ÷ \$1 200 000) × 100 = **42.0%**; NPM = (\$156 000 ÷ \$1 200 000) × 100 = **13.0%**; ATO = \$1 200 000 ÷ \$750 000 = **1.6 times**; ROA = NPM × ATO = 13.0% × 1.6 = **20.8%**.

Bentleigh Bathroomware — year ended
30 June 2026

	Figure
Net sales	\$1 200 000
Gross profit	\$504 000
Net profit	\$156 000
Average total assets	\$750 000
Gross Profit Margin	42.0%
Net Profit Margin	13.0%
Asset Turnover	1.6 times
Return on Assets	20.8%

Bentleigh keeps **42 cents of gross profit** and **13 cents of net profit** in every sales dollar; the 29.0-point gap is its other expenses, which take 29 cents of each sales dollar (\$348 000 ÷ \$1 200 000 = 29.0%). Each dollar of average assets generates **\$1.60 of net sales** and earns **20.8 cents of net profit**, and that 20.8% Return on Assets is exactly the 13.0% Net Profit Margin multiplied by the 1.6-times Asset Turnover. The return is margin-led rather than turnover-led: Bentleigh keeps a healthy share of each sales dollar, but works its asset base comparatively slowly, so the clearest room for improvement is to lift sales from the assets it already holds. Whether the result is genuinely “good” would be confirmed by comparing it with Bentleigh’s own earlier years, its budget, or a similar bathroomware retailer.

Chapter 18 Evaluating performance — 18D Vertical analysis of the Income Statement

Theory

Extension — beyond the core Units 1 & 2 study design. Vertical (common-size) analysis is a widely used analytical technique, but it is **not** one of the financial indicators named in the Units 1 & 2 study design. It is included here as enrichment to strengthen your interpretation skills; it is **not assessed** in the graded topic tests or practice examinations.

A single dollar figure in an Income Statement rarely answers the question the owner is really asking: *how well is the business trading?* A net profit of \$60 000 tells us nothing about whether that is a strong result until we know how much had to be **sold**, and **spent**, to earn it. Sections 18B and 18C measured profitability with the profit-based indicators; **vertical analysis** goes one step further and rewrites the **whole Income Statement in percentage terms**, so the **structure** of the report — how each sales dollar is consumed and what is left over — can be seen at a glance and **compared**.

What vertical analysis is. Vertical analysis (also called **common-size analysis**) expresses **every item in a report as a percentage of a single base figure**. For the Income Statement the base is **Net Sales**, which is set at **100%**. Each other line — Cost of Sales, Gross Profit, each individual expense, Total Expenses and Net Profit — is then expressed as a percentage of net sales:

$$\text{item as \% of net sales} = (\text{item} \div \text{net sales}) \times 100$$

The result is conventionally shown to **one decimal place**. Because Cost of Sales and Gross Profit together make up the whole of net sales, their percentages must always add to 100%:

$$\text{Cost of Sales \%} + \text{Gross Profit \%} = 100\%$$

and, once the other expenses are taken out of gross profit, the structure closes again (for a business with no other revenue and no inventory gain or loss):

$$\text{Gross Profit \%} = \text{Total Expenses \%} + \text{Net Profit \%}$$

Why express the report this way. Raw dollar figures cannot be compared fairly between a large business and a small one, or between one year and the next when the volume of sales has changed — a bigger business will report bigger expenses simply because it sells more. Converting every line to a **percentage of net sales** strips out the effect of size and reveals the **proportions**: how many cents of every sales dollar go to buying the inventory sold (Cost of Sales %), how many are left as gross profit, how many each expense consumes, and how many survive as net profit. Two firms of very different size, or the same firm across several years, can then be laid side by side and judged on the **same 100-cent scale**.

Reading the structure and finding the problem line. Vertical analysis is most powerful when two common-size statements are **compared** — the same business across two years, or against a similar business. Reading the percentages line by line locates **where** a change in profitability has come from. The line whose percentage has moved **unfavourably** — an expense or Cost of Sales that has **risen** as a share of sales, or a profit line that has **fallen** — is the **problem line**: the item responsible for eroding the net profit percentage. Identifying it turns a vague “profit is down” into a precise diagnosis that a targeted **strategy** can address:

- If **Cost of Sales %** has risen (and so **Gross Profit %** has fallen), the problem is in the **trading margin** — cost prices have risen relative to selling prices, or selling prices have been discounted. Strategies target the margin: negotiate lower supplier prices, review the mark-up, or shift the sales mix towards higher-margin lines.
- If **Gross Profit %** holds steady but an **expense %** rises, the trading margin is intact and the problem is in the **other expenses** — one of them has grown faster than sales. The strategy targets that specific expense (for example reviewing staffing where Wages % has climbed).

A percentage is never “good” or “bad” in isolation. It becomes meaningful only when compared **like with like** — the qualitative characteristic of **comparability**: the same business over time, or businesses of a similar type and size, prepared on the same accounting basis.

Worked model. Brookdale Living is a trading business. Its Income Statement for the year ended 30 June 2026 shows Net Sales \$500 000, Cost of Sales \$300 000 and expenses of Wages \$80 000, Rent expense \$30 000, Advertising \$20 000 and Interest expense \$10 000. Expressing each line as a percentage of net sales gives:

Vertical analysis of the Income Statement for the year ended 30 June 2026

Brookdale Living	\$	% of net sales
Net Sales	500 000	100.0
less Cost of Sales	300 000	60.0
Gross Profit	200 000	40.0
less Expenses		
Wages	80 000	16.0
Rent expense	30 000	6.0
Advertising	20 000	4.0
Interest expense	10 000	2.0
Total Expenses	140 000	28.0
Net Profit	60 000	12.0

Every line is $(\text{item} \div \$500\,000) \times 100$: Cost of Sales is $\$300\,000 \div \$500\,000 = 60.0\%$, so 60 cents of every sales dollar is spent buying the inventory sold, leaving **40.0%** as gross profit; the other expenses together take **28.0%**, leaving **12.0%** — 12 cents in every sales dollar — as net profit. Notice that $60.0\% + 40.0\% = 100\%$, and that $40.0\% = 28.0\% + 12.0\%$.

Comparing two years. Suppose that in the year ended 30 June 2025 Brookdale Living had reported Net Sales \$400 000, Cost of Sales \$232 000 and expenses of Wages \$60 000, Rent expense \$24 000, Advertising \$12 000 and Interest expense \$8 000. Setting the two common-size statements side by side shows the **change in structure**:

Item	2025 %	2026 %	Change (pts)
Cost of Sales	58.0	60.0	+2.0
Gross Profit	42.0	40.0	-2.0
Wages	15.0	16.0	+1.0
Rent expense	6.0	6.0	0.0
Advertising	3.0	4.0	+1.0
Interest expense	2.0	2.0	0.0
Total Expenses	26.0	28.0	+2.0
Net Profit	16.0	12.0	-4.0

The **Net Profit % has fallen by 4.0 points**, from 16.0% to 12.0%. Vertical analysis pinpoints *why*. The **Cost of Sales % rose 2.0 points** (58.0% → 60.0%), dragging **Gross Profit %** down by the same amount — the **primary problem line** — while **Advertising %** and **Wages %** each rose 1.0 point, adding a further 2.0 points to the expense burden. The business should therefore review its supplier cost prices and selling prices to rebuild the trading margin, and check whether the extra advertising is actually generating the sales to justify it.

Ethical considerations. A vertical-analysis statement is often the first thing a **lender**, a prospective **buyer** or a **franchisor** looks at, because it strips a business down to a clean 100-cent structure that can be set against a benchmark. That makes it a tempting target for manipulation. **Overstating closing inventory** — reporting more than the physical count supports — records a **fictitious inventory gain**. Because Cost of Sales is taken from the **inventory cards** as the goods go out, **Cost of Sales % and Gross Profit % are unchanged**; the invented gain is reported **after Gross Profit** (section 12A), so it is **Net Profit %** that is inflated — a reminder that a movement in Net Profit % the Gross Profit % cannot explain always has its cause **below the gross-profit line**. **Misclassifying an expense** — recharacterising genuine wages as “drawings”, or burying a cost so Total Expenses % looks leaner — makes the business appear more efficient than it is. Both breach the owner’s ethical duty to present a **faithful representation** of performance — complete, neutral and free from bias — and both defeat **comparability**, because a reader matching the

distorted percentages against an industry benchmark or a prior year is misled. Acting on inflated percentages, a lender may advance funds the business cannot service, or a buyer may pay too much; when the true structure emerges the owner's reputation, and possibly their legal position, is damaged. Ethical reporting values inventory at the amount actually on hand, classifies every expense as the expense it is, and lets the percentages speak for the business's real performance.

Worked examples (scaffolded)

Example 1 — preparing a vertical-analysis Income Statement

Harborline Homewares is a trading business. For the year ended 30 June 2026 it reports Sales \$620 000, Sales Returns \$20 000, Cost of Sales \$360 000, and expenses of Wages \$84 000, Rent expense \$36 000, Advertising \$18 000 and Interest expense \$12 000. Prepare a vertical analysis of the Income Statement, expressing each item as a percentage of net sales.

Working	Comment
Net Sales = Sales \$620 000 – Sales Returns \$20 000 = \$600 000 → the base, 100.0% .	Net sales, not sales, is the 100% base; returns are stripped out first.
Cost of Sales % = \$360 000 ÷ \$600 000 × 100 = 60.0% ; Gross Profit = \$240 000 → 40.0% .	60 cents of each sales dollar buys the inventory sold; 40 cents is gross profit. COS % + GP % = 100.
Expense %s: Wages \$84 000 → 14.0%; Rent \$36 000 → 6.0%; Advertising \$18 000 → 3.0%; Interest \$12 000 → 2.0%.	Each expense ÷ net sales × 100.
Total Expenses = \$150 000 → 25.0% ; Net Profit = \$90 000 → 15.0% .	40.0% – 25.0% = 15.0%, so the structure closes.

Vertical analysis of the Income Statement for the year ended 30 June 2026

Harborline Homewares	\$	% of net sales
Net Sales	600 000	100.0
less Cost of Sales	360 000	60.0
Gross Profit	240 000	40.0
less Expenses		
Wages	84 000	14.0
Rent expense	36 000	6.0
Advertising	18 000	3.0
Interest expense	12 000	2.0
Total Expenses	150 000	25.0
Net Profit	90 000	15.0

∴ Harborline Homewares keeps 40 cents of gross profit and 15 cents of net profit in every sales dollar; cost of sales absorbs 60 cents and the other expenses 25 cents.

Example 2 — comparing two years and identifying the problem line

Vale Cycles is a trading business. Its results for two years are: **2025** — Net Sales \$500 000, Cost of Sales \$300 000, expenses Wages \$75 000, Rent expense \$25 000, Advertising \$15 000, Interest expense \$10 000; **2026** — Net Sales \$600 000, Cost of Sales \$384 000, expenses Wages \$90 000, Rent expense \$30 000, Advertising \$18 000, Interest expense \$12 000. Prepare a vertical analysis for each year, and identify the problem line.

Working	Comment
2025: GP = \$500 000 – \$300 000 = \$200 000 → Cost of Sales 60.0% , Gross Profit 40.0% .	Base = \$500 000.
2025 expenses: 15.0% + 5.0% + 3.0% + 2.0% = Total	40.0% – 25.0% = 15.0%.

25.0%; Net Profit \$75 000 → **15.0%**.

2026: GP = \$600 000 – \$384 000 = \$216 000 → Cost of Sales **64.0%**, Gross Profit **36.0%**.
Base = \$600 000; COS % has risen.

2026 expenses: 15.0% + 5.0% + 3.0% + 2.0% = Total 25.0% Every expense % is unchanged.

25.0%; Net Profit \$66 000 → **11.0%**.

Compare: Cost of Sales % rose 60.0% → 64.0% (+4.0); The whole fall sits above the gross-profit line.
Net Profit % fell 15.0% → 11.0% (–4.0).

Vertical analysis of the Income Statement (comparative, % of net sales)

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	64.0	+4.0
Gross Profit	40.0	36.0	–4.0
Wages	15.0	15.0	0.0
Rent expense	5.0	5.0	0.0
Advertising	3.0	3.0	0.0
Interest expense	2.0	2.0	0.0
Total Expenses	25.0	25.0	0.0
Net Profit	15.0	11.0	–4.0

∴ the **problem line is Cost of Sales**: it climbed from 60.0% to 64.0% of net sales, cutting Gross Profit % by the same 4.0 points. Because every expense percentage held steady, the entire 4.0-point fall in Net Profit % comes from the trading margin — cost prices have risen relative to selling prices, so the business should review its supplier prices and its mark-up.

Worked examples (unscaffolded)

Example 3 — a problem line in the expenses

Marlowe Furniture, a trading business, reports for **2025** Net Sales \$800 000, Cost of Sales \$480 000, and expenses Wages \$120 000, Rent expense \$40 000, Advertising \$24 000, Interest expense \$16 000; and for **2026** Net Sales \$900 000, Cost of Sales \$540 000, and expenses Wages \$180 000, Rent expense \$45 000, Advertising \$27 000, Interest expense \$18 000. Prepare a comparative vertical analysis and identify the problem line.

In both years Cost of Sales is 60.0% of net sales and Gross Profit is 40.0%, so the **trading margin is unchanged**. The expense percentages tell the story: Rent (5.0%), Advertising (3.0%) and Interest (2.0%) are steady, but **Wages jumped from 15.0% to 20.0%** of net sales, lifting Total Expenses from 25.0% to 30.0% and pulling Net Profit down from 15.0% to 10.0%.

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	60.0	0.0
Gross Profit	40.0	40.0	0.0
Wages	15.0	20.0	+5.0
Rent expense	5.0	5.0	0.0
Advertising	3.0	3.0	0.0
Interest expense	2.0	2.0	0.0
Total Expenses	25.0	30.0	+5.0
Net Profit	15.0	10.0	–5.0

∴ the **problem line is Wages**: with the gross margin intact, the whole 5.0-point fall in Net Profit % is caused by wages rising from 15 to 20 cents in every sales dollar. The business should review its staffing levels and wage costs rather than its selling or cost prices.

Example 4 — comparing two firms of different size

Northpeak Sports and Summit Sports are two trading businesses reporting for the same year. **Northpeak:** Net Sales \$400 000, Cost of Sales \$260 000, expenses Wages \$40 000, Rent expense \$20 000, Advertising \$8 000, Interest expense \$4 000. **Summit:** Net Sales \$1 000 000, Cost of Sales \$700 000, expenses Wages \$120 000, Rent expense \$40 000, Advertising \$30 000, Interest expense \$10 000. Use vertical analysis to compare their structures, even though Summit is two-and-a-half times the size.

Because Summit sells far more, its dollar figures are all larger — but that says nothing about how **well** each firm trades. Restating both on the 100-cent scale removes the size difference:

Item	Northpeak %	Summit %
Cost of Sales	65.0	70.0
Gross Profit	35.0	30.0
Wages	10.0	12.0
Rent expense	5.0	4.0
Advertising	2.0	3.0
Interest expense	1.0	1.0
Total Expenses	18.0	20.0
Net Profit	17.0	10.0

Northpeak keeps a higher Gross Profit % (35.0% versus 30.0%), so its **trading margin is stronger** — its cost of sales consumes 65 cents of each sales dollar against Summit's 70. It also controls its other expenses more tightly (18.0% versus 20.0%). The two advantages combine so that Northpeak keeps **17 cents of net profit in every sales dollar against Summit's 10**.

∴ although Summit earns more total net profit in dollars (\$100 000 versus Northpeak's \$68 000), vertical analysis shows **Northpeak has the stronger structure**, earning more profit per sales dollar — a comparison that only becomes possible once size is stripped out.

Practice questions — scaffolded

Question 1

Ridgeway Retail, a trading business, reports for the year ended 30 June 2026: Net Sales \$400 000; Cost of Sales \$240 000; and expenses Wages \$60 000, Rent expense \$20 000, Advertising \$12 000 and Interest expense \$8 000.

- Prepare a vertical analysis of the Income Statement, expressing each item as a percentage of net sales.
- State the Cost of Sales percentage and the Gross Profit percentage.
- State, in cents per sales dollar, what the Net Profit percentage means.

Question 2

Brightlands Trading reports for the year ended 30 June 2026: Sales \$520 000; Sales Returns \$20 000; Cost of Sales \$320 000; and expenses Wages \$70 000, Rent expense \$25 000, Advertising \$15 000 and Interest expense \$10 000.

- Calculate Net Sales.
- Prepare a vertical analysis of the Income Statement.
- Explain in one sentence why net sales, not sales, is used as the base (100%).

Question 3

Fairview Fashions, a trading business, reports for **2025** Net Sales \$500 000, Cost of Sales \$275 000, Total Expenses \$140 000; and for **2026** Net Sales \$600 000, Cost of Sales \$360 000, Total Expenses \$168 000. (In both years the expenses are Wages, Rent expense, Advertising and Interest expense.)

- Calculate the Cost of Sales percentage and the Gross Profit percentage for each year.

- b. Calculate the Net Profit percentage for each year.
- c. Identify the problem line, and state in one sentence what has happened to it.

Question 4

Coastline Provisions, a trading business, reports for **2025** Net Sales \$400 000, Cost of Sales \$240 000, and expenses Wages \$48 000, Rent expense \$20 000, Advertising \$8 000, Interest expense \$4 000; and for **2026** Net Sales \$500 000, Cost of Sales \$300 000, and expenses Wages \$60 000, Rent expense \$25 000, Advertising \$40 000, Interest expense \$5 000.

- a. Calculate the Gross Profit percentage for each year and comment on the trading margin.
- b. Identify the expense line that has risen most as a percentage of net sales.
- c. State the size of that expense line's percentage change, and give one possible explanation.

Question 5

Meadowvale Market, a trading business, has Net Sales of \$500 000 in each of two years. Its vertical analysis shows: **2025** Cost of Sales 62.0%, Total Expenses 22.0%; **2026** Cost of Sales 68.0%, Total Expenses 22.0%.

- a. State which line is the problem line.
- b. Recommend two strategies the business could use to address it.
- c. Explain in one sentence how vertical analysis helped locate the problem.

Question 6

Aster Boutique and Bloom Boutique are two trading businesses reporting for the same year. **Aster:** Net Sales \$300 000, Cost of Sales \$180 000, Total Expenses \$72 000. **Bloom:** Net Sales \$600 000, Cost of Sales \$384 000, Total Expenses \$108 000.

- a. Calculate the Gross Profit percentage and the Net Profit percentage for each firm.
- b. State which firm has the better trading margin and which is more profitable overall per sales dollar.
- c. Explain in one sentence why vertical analysis makes this comparison valid despite the difference in size.

Practice questions — unscaffolded

Question 7

Oakhart Trading reports for the year ended 30 June 2026: Sales \$640 000; Sales Returns \$40 000; Cost of Sales \$390 000; and expenses Wages \$78 000, Rent expense \$30 000, Advertising \$18 000 and Interest expense \$12 000. Prepare a vertical analysis of the Income Statement and state the Cost of Sales percentage and the Net Profit percentage.

Question 8

Pinehaven Provisions, a trading business, reports for the year ended 30 June 2026: Net Sales \$800 000; Cost of Sales \$480 000; and expenses Wages \$128 000, Rent expense \$40 000, Advertising \$24 000 and Interest expense \$8 000. Prepare a vertical analysis of the Income Statement and state the Gross Profit percentage and the Net Profit percentage.

Question 9

Glenferrie Goods, a trading business, reports for **2025** Net Sales \$700 000, Cost of Sales \$420 000, and expenses Wages \$105 000, Rent expense \$35 000, Advertising \$21 000, Interest expense \$14 000; and for **2026** Net Sales \$800 000, Cost of Sales \$520 000, and expenses Wages \$120 000, Rent expense \$40 000, Advertising \$24 000, Interest expense \$16 000. Prepare a comparative vertical analysis, identify the problem line, and state one strategy to address it.

Question 10

Rosslyn Retail, a trading business, reports for **2025** Net Sales \$500 000, Cost of Sales \$325 000, and expenses Wages \$50 000, Rent expense \$25 000, Advertising \$10 000, Interest expense \$5 000; and for **2026** Net Sales \$600 000, Cost of Sales \$390 000, and expenses Wages \$90 000, Rent expense \$30 000, Advertising \$12 000, Interest expense \$6 000. Identify the problem line, explain why the steadiness of the Gross Profit percentage matters to your diagnosis, and recommend one strategy.

Question 11

Tallowood Trading reports for **2025** Net Sales \$600 000, Cost of Sales \$360 000, and expenses Wages \$72 000, Rent expense \$30 000, Advertising \$18 000, Interest expense \$12 000; and for **2026** Net Sales \$600 000, Cost of Sales \$378 000, and expenses Wages \$78 000, Rent expense \$30 000, Advertising \$24 000, Interest expense \$12 000. The Net Profit percentage has fallen 5.0 points. Prepare a comparative vertical analysis, identify the primary problem line, and note which two expense lines also worked against the business.

Question 12

Kelmswood Hardware and Drayton Hardware are two trading businesses reporting for the same year. **Kelmswood:** Net Sales \$500 000, Cost of Sales \$300 000, Total Expenses \$100 000. **Drayton:** Net Sales \$1 200 000, Cost of Sales \$780 000, Total Expenses \$204 000. Calculate the Gross Profit percentage and the Net Profit percentage for each, and discuss which business is more profitable per sales dollar, explaining why the larger total net profit of one firm does not settle the question.

Question 13

Hawthornden Homeware, a trading business, reports for **2025** Net Sales \$500 000, Cost of Sales \$320 000, and expenses Wages \$60 000, Rent expense \$20 000, Advertising \$10 000, Interest expense \$10 000; and for **2026** Net Sales \$600 000, Cost of Sales \$372 000, and expenses Wages \$96 000, Rent expense \$24 000, Advertising \$18 000, Interest expense \$12 000. Calculate the Gross Profit percentage and the Net Profit percentage for each year, explain how the two moved in **opposite directions**, and identify the problem line.

Question 14

Braeside Bikes, a trading business, has Net Sales of \$500 000 in each of two years and Total Expenses of \$120 000 in each year. Cost of Sales was \$300 000 in 2025 and \$330 000 in 2026. Prepare the vertical analysis for each year, identify the problem line, and model the effect on net profit of restoring the Cost of Sales percentage to its 2025 level, holding net sales and expenses unchanged. Recommend two strategies.

Question 15

Answer each part using the vertical-analysis relationships.

- A trading business has Net Sales \$600 000 and a Cost of Sales that is 62.0% of net sales. Calculate its Cost of Sales and its Gross Profit (in dollars and as a percentage).
- A trading business has Net Sales \$400 000; its wages are 15.0% of net sales. Calculate its wages in dollars.
- A trading business's Gross Profit is \$150 000, which is 30.0% of net sales. Calculate its net sales and its Cost of Sales (in dollars and as a percentage).
- A trading business has Net Sales \$500 000, a Cost of Sales percentage of 60.0% and a Total Expenses percentage of 25.0%. Calculate its Net Profit percentage and its Net Profit in dollars.

Question 16

Explain each of the following in a sentence or two.

- What **vertical analysis** of the Income Statement is, and which figure serves as the base (100%).
- Why expressing each item as a **percentage of net sales** allows a valid comparison between two firms of very different size.
- What is meant by the **problem line**, and how vertical analysis helps identify it.
- Why the **Cost of Sales percentage and the Gross Profit percentage must always add to 100%**.

Question 17

Sedgefield Supplies (owner G. Sedgefield) is a trading business preparing a vertical analysis to support a loan application. The business records its inventory on **inventory cards**. Its correct figures for the year ended 30 June 2026 are Net Sales \$600 000, Cost of Sales \$390 000, and expenses Wages \$78 000, Rent expense \$24 000, Advertising \$12 000 and Interest expense \$6 000 (closing inventory of \$40 000 matches the physical count). Wanting the structure to match an industry benchmark net margin of 20%, the owner proposes to (i) record closing inventory at \$70 000 rather than the \$40 000 counted, and (ii) reclassify \$12 000 of wages as “drawings” so the expenses look lower. Calculate the correct Gross Profit and Net Profit percentages, and the percentages the two actions together would produce; state which of those two percentages action (i) leaves untouched and why; then discuss the ethical considerations raised, referring to a relevant qualitative characteristic and to the effect on the lender, and state what should be done.

Question 18

Winterbourne Wares (owner H. Winterbourne), a trading business, reports for **2025** Sales \$620 000, Sales Returns \$20 000, Cost of Sales \$360 000, and expenses Wages \$72 000, Rent expense \$30 000, Advertising \$24 000, Interest expense \$18 000; and for **2026** Sales \$830 000, Sales Returns \$30 000, Cost of Sales \$512 000, and expenses Wages \$112 000, Rent expense \$40 000, Advertising \$32 000, Interest expense \$24 000. Prepare a comparative vertical analysis of the Income Statement, identify the **two** problem lines, quantify how many of the Net Profit percentage's fall each is responsible for, and recommend a strategy for each.

Answers

1.
 - b. Cost of Sales **60.0%**, Gross Profit **40.0%** c. Net Profit **15.0%** = 15 cents of net profit per sales dollar
2.
 - a. Net Sales **\$500 000** b. Cost of Sales 64.0%, Gross Profit 36.0%, Total Expenses 24.0%, Net Profit **12.0%**
3.
 - a. 2025 Cost of Sales 55.0% / Gross Profit 45.0%; 2026 Cost of Sales 60.0% / Gross Profit 40.0% b. Net Profit 17.0% → 12.0% c. Problem line **Cost of Sales** (up 5.0 pts)
4.
 - a. Gross Profit **40.0% both years** — trading margin steady b. **Advertising** c. +6.0 pts (2.0% → 8.0%)
5.
 - a. **Cost of Sales** (62.0% → 68.0%) b. see solutions c. see solutions
6.
 - a. Aster Gross Profit 40.0% / Net Profit 16.0%; Bloom Gross Profit 36.0% / Net Profit 18.0% b. Aster better trading margin; **Bloom** more profitable overall per sales dollar
7. Cost of Sales **65.0%**, Gross Profit 35.0%, Net Profit **12.0%**
8. Gross Profit **40.0%**, Net Profit **15.0%**
9. Problem line **Cost of Sales** (60.0% → 65.0%); Net Profit 15.0% → 10.0%
10. Problem line **Wages** (10.0% → 15.0%); Gross Profit steady at 35.0%; Net Profit 17.0% → 12.0%
11. Primary problem line **Cost of Sales** (60.0% → 63.0%); also Wages +1.0 pt and Advertising +1.0 pt; Net Profit 18.0% → 13.0%
12. Kelmswood Gross Profit 40.0% / Net Profit 20.0%; Drayton Gross Profit 35.0% / Net Profit 18.0% — **Kelmswood** more profitable per sales dollar
13. Gross Profit **rose** 36.0% → 38.0% but Net Profit **fell** 16.0% → 13.0%; problem line **Wages** (12.0% → 16.0%)
14. Problem line **Cost of Sales** (60.0% → 66.0%); restoring it to 60.0% lifts Net Profit from \$50 000 (10.0%) to \$80 000 (16.0%)
15.
 - a. Cost of Sales \$372 000; Gross Profit \$228 000 (38.0%) b. Wages \$60 000 c. Net Sales \$500 000; Cost of Sales \$350 000 (70.0%) d. Net Profit 15.0% = \$75 000
16. See solutions
17. Correct Gross Profit 35.0% / Net Profit 15.0%; distorted Gross Profit **still 35.0%** (action (i) is a fictitious inventory gain, reported below Gross Profit) / Net Profit 22.0% — see solutions
18. Net Profit 16.0% → 10.0% (−6.0 pts); problem lines **Cost of Sales** (+4.0 pts) and **Wages** (+2.0 pts)

Fully-worked solutions

Question 1

Net Sales \$400 000 is the base (100.0%). Gross Profit = \$400 000 − \$240 000 = \$160 000.

Vertical analysis of the Income Statement for the year ended 30 June 2026

Ridgeway Retail	\$	% of net sales
Net Sales	400 000	100.0
less Cost of Sales	240 000	60.0
Gross Profit	160 000	40.0
less Expenses		
Wages	60 000	15.0
Rent expense	20 000	5.0
Advertising	12 000	3.0

Ridgeway Retail	\$	% of net sales
Interest expense	8 000	2.0
Total Expenses	100 000	25.0
Net Profit	60 000	15.0

- b. $\text{Cost of Sales} = (\$240\,000 \div \$400\,000) \times 100 = \mathbf{60.0\%}$; $\text{Gross Profit} = (\$160\,000 \div \$400\,000) \times 100 = \mathbf{40.0\%}$.
- c. The Net Profit percentage of **15.0%** means the business keeps **15 cents of net profit in every sales dollar** after cost of sales and all other expenses.

Question 2

- a. $\text{Net Sales} = \text{Sales } \$520\,000 - \text{Sales Returns } \$20\,000 = \mathbf{\$500\,000}$.
- b. $\text{Gross Profit} = \$500\,000 - \$320\,000 = \$180\,000$; $\text{Total Expenses} = \$70\,000 + \$25\,000 + \$15\,000 + \$10\,000 = \$120\,000$; $\text{Net Profit} = \$180\,000 - \$120\,000 = \$60\,000$.

Vertical analysis of the Income Statement for the year ended 30 June 2026

Brightlands Trading	\$	% of net sales
Net Sales	500 000	100.0
less Cost of Sales	320 000	64.0
Gross Profit	180 000	36.0
less Expenses		
Wages	70 000	14.0
Rent expense	25 000	5.0
Advertising	15 000	3.0
Interest expense	10 000	2.0
Total Expenses	120 000	24.0
Net Profit	60 000	12.0

- c. **Net sales** is used as the base because it is the revenue the business actually earned from selling inventory once customer returns are removed; measuring every item against that figure keeps the base consistent and lets Cost of Sales % and Gross Profit % add to 100%.

Question 3

- a. 2025: $\text{Cost of Sales} = (\$275\,000 \div \$500\,000) \times 100 = \mathbf{55.0\%}$, $\text{Gross Profit } \mathbf{45.0\%}$. 2026: $\text{Cost of Sales} = (\$360\,000 \div \$600\,000) \times 100 = \mathbf{60.0\%}$, $\text{Gross Profit } \mathbf{40.0\%}$.
- b. 2025: $\text{Net Profit} = \$500\,000 - \$275\,000 - \$140\,000 = \$85\,000 \rightarrow (\$85\,000 \div \$500\,000) \times 100 = \mathbf{17.0\%}$.
2026: $\text{Net Profit} = \$600\,000 - \$360\,000 - \$168\,000 = \$72\,000 \rightarrow (\$72\,000 \div \$600\,000) \times 100 = \mathbf{12.0\%}$.

Item	2025 %	2026 %	Change (pts)
Cost of Sales	55.0	60.0	+5.0
Gross Profit	45.0	40.0	-5.0
Total Expenses	28.0	28.0	0.0
Net Profit	17.0	12.0	-5.0

- c. The **problem line is Cost of Sales**: it rose from 55.0% to 60.0% of net sales (+5.0 points), cutting Gross Profit % by the same amount. Because Total Expenses held at 28.0%, the whole 5.0-point fall in Net Profit % comes from the trading margin — cost prices rose relative to selling prices (or selling prices were discounted).

Question 4

- a. 2025 $\text{Gross Profit} = (\$400\,000 - \$240\,000) \div \$400\,000 \times 100 = \mathbf{40.0\%}$; 2026 $\text{Gross Profit} = (\$500\,000 - \$300\,000) \div \$500\,000 \times 100 = \mathbf{40.0\%}$. The **trading margin is unchanged** — cost of sales is 60.0% of net sales in both years — so the fall in profitability is not in the gross margin.

- b. The expense percentages are: Wages 12.0% both years; Rent 5.0% both years; Interest 1.0% both years; **Advertising 2.0% → 8.0%**. The line that has risen most is **Advertising**.
- c. Advertising rose by **+6.0 points** (2.0% → 8.0%) of net sales. A possible explanation is that the business launched a large advertising campaign whose extra spending has not (yet) produced a matching lift in sales, so it is consuming a bigger share of each sales dollar; Net Profit % consequently fell from 20.0% to 14.0%.

Question 5

- a. The **problem line is Cost of Sales**, which rose from 62.0% to 68.0% of net sales (+6.0 points), pulling Gross Profit % down from 38.0% to 32.0%; with Total Expenses steady at 22.0%, Net Profit % fell from 16.0% to 10.0%.
- b. Two strategies aimed at the trading margin: **negotiate lower cost prices** with suppliers (or find a cheaper supplier) so cost of sales absorbs fewer cents per sales dollar; and **review the selling price / mark-up** so selling prices keep pace with cost prices. (Shifting the sales mix towards higher-margin lines would also help.)
- c. Vertical analysis restated every line as a percentage of net sales, so the rise showed up **precisely on the Cost of Sales line** rather than being hidden in a larger total — letting the business target the trading margin instead of guessing.

Question 6

- a. Aster: Gross Profit = $(\$300\,000 - \$180\,000) \div \$300\,000 \times 100 = \mathbf{40.0\%}$; Net Profit = $(\$300\,000 - \$180\,000 - \$72\,000) \div \$300\,000 \times 100 = \mathbf{16.0\%}$. Bloom: Gross Profit = $(\$600\,000 - \$384\,000) \div \$600\,000 \times 100 = \mathbf{36.0\%}$; Net Profit = $(\$600\,000 - \$384\,000 - \$108\,000) \div \$600\,000 \times 100 = \mathbf{18.0\%}$.

Item	Aster %	Bloom %
Cost of Sales	60.0	64.0
Gross Profit	40.0	36.0
Total Expenses	24.0	18.0
Net Profit	16.0	18.0

- b. **Aster has the better trading margin** — its Gross Profit % of 40.0% beats Bloom's 36.0%, so it keeps more gross profit in each sales dollar (a bigger mark-up or lower cost prices). **Bloom, however, is more profitable overall per sales dollar** — its Net Profit % of 18.0% beats Aster's 16.0%, because it controls its other expenses far more tightly (18.0% of net sales against Aster's 24.0%). It is the net margin that measures how much the owner ultimately keeps.
- c. Vertical analysis expresses every line as a percentage of each firm's **own** net sales, removing the effect of size, so the two structures can be compared on the same 100-cent scale even though Bloom's sales are double Aster's.

Question 7

Net Sales = $\$640\,000 - \$40\,000 = \$600\,000$; Gross Profit = $\$600\,000 - \$390\,000 = \$210\,000$; Total Expenses = $\$78\,000 + \$30\,000 + \$18\,000 + \$12\,000 = \$138\,000$; Net Profit = $\$72\,000$.

Vertical analysis of the Income Statement for the year ended 30 June 2026

Oakhart Trading	\$	% of net sales
Net Sales	600 000	100.0
less Cost of Sales	390 000	65.0
Gross Profit	210 000	35.0
less Expenses		
Wages	78 000	13.0
Rent expense	30 000	5.0
Advertising	18 000	3.0
Interest expense	12 000	2.0

Oakhart Trading	\$	% of net sales
Total Expenses	138 000	23.0
Net Profit	72 000	12.0

Cost of Sales = **65.0%** of net sales; Net Profit = **12.0%** of net sales.

Question 8

Gross Profit = \$800 000 – \$480 000 = \$320 000; Total Expenses = \$128 000 + \$40 000 + \$24 000 + \$8 000 = \$200 000; Net Profit = \$120 000.

Vertical analysis of the Income Statement for the year ended 30 June 2026

Pinehaven Provisions	\$	% of net sales
Net Sales	800 000	100.0
less Cost of Sales	480 000	60.0
Gross Profit	320 000	40.0
less Expenses		
Wages	128 000	16.0
Rent expense	40 000	5.0
Advertising	24 000	3.0
Interest expense	8 000	1.0
Total Expenses	200 000	25.0
Net Profit	120 000	15.0

Gross Profit = **40.0%** of net sales; Net Profit = **15.0%** of net sales.

Question 9

2025: Cost of Sales = \$420 000 ÷ \$700 000 = **60.0%**, Gross Profit **40.0%**; expenses 15.0% + 5.0% + 3.0% + 2.0% = Total **25.0%**; Net Profit **15.0%**. 2026: Cost of Sales = \$520 000 ÷ \$800 000 = **65.0%**, Gross Profit **35.0%**; expenses 15.0% + 5.0% + 3.0% + 2.0% = Total **25.0%**; Net Profit **10.0%**.

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	65.0	+5.0
Gross Profit	40.0	35.0	–5.0
Wages	15.0	15.0	0.0
Rent expense	5.0	5.0	0.0
Advertising	3.0	3.0	0.0
Interest expense	2.0	2.0	0.0
Total Expenses	25.0	25.0	0.0
Net Profit	15.0	10.0	–5.0

The **problem line is Cost of Sales**, which rose from 60.0% to 65.0% of net sales; every expense percentage is unchanged, so the whole 5.0-point fall in Net Profit % is a trading-margin problem. A suitable strategy is to **negotiate lower cost prices with suppliers** (or review the mark-up so selling prices keep pace with cost prices).

Question 10

2025: Cost of Sales = \$325 000 ÷ \$500 000 = **65.0%**, Gross Profit **35.0%**; Wages 10.0%, Rent 5.0%, Advertising 2.0%, Interest 1.0% → Total **18.0%**; Net Profit **17.0%**. 2026: Cost of Sales = \$390 000 ÷ \$600 000 = **65.0%**, Gross Profit **35.0%**; Wages 15.0%, Rent 5.0%, Advertising 2.0%, Interest 1.0% → Total **23.0%**; Net Profit **12.0%**.

The **problem line is Wages**, which rose from 10.0% to 15.0% of net sales (+5.0 points). The steadiness of the **Gross Profit percentage (35.0% in both years)** is what makes the diagnosis precise: because the trading margin is unchanged, the fall in Net Profit % cannot be a cost-of-sales or selling-price problem, so it must lie in the other expenses — and vertical analysis shows it is wages, not rent, advertising or interest, that has grown as a share of sales. A suitable strategy is to **review staffing levels and wage costs** (for example rostering, hours or productivity) to bring wages back into line with sales.

Question 11

2025: Cost of Sales 60.0%, Gross Profit 40.0%; Wages 12.0%, Rent 5.0%, Advertising 3.0%, Interest 2.0% → Total 22.0%; Net Profit 18.0%. 2026: Cost of Sales = $\$378\,000 \div \$600\,000 = 63.0\%$, Gross Profit 37.0%; Wages 13.0%, Rent 5.0%, Advertising 4.0%, Interest 2.0% → Total 24.0%; Net Profit 13.0%.

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	63.0	+3.0
Gross Profit	40.0	37.0	−3.0
Wages	12.0	13.0	+1.0
Rent expense	5.0	5.0	0.0
Advertising	3.0	4.0	+1.0
Interest expense	2.0	2.0	0.0
Total Expenses	22.0	24.0	+2.0
Net Profit	18.0	13.0	−5.0

The **primary problem line is Cost of Sales**, which rose 3.0 points (60.0% → 63.0%) and accounts for the largest single part of the 5.0-point fall in Net Profit %. Two expense lines also worked against the business: **Wages** (+1.0 point) and **Advertising** (+1.0 point), which together lifted Total Expenses % by the remaining 2.0 points. Rent and Interest held steady. The business should focus first on rebuilding the trading margin and then on containing wages and advertising.

Question 12

Kelmswood: Gross Profit = $(\$500\,000 - \$300\,000) \div \$500\,000 \times 100 = 40.0\%$; Net Profit = $(\$500\,000 - \$300\,000 - \$100\,000) \div \$500\,000 \times 100 = 20.0\%$. Drayton: Gross Profit = $(\$1\,200\,000 - \$780\,000) \div \$1\,200\,000 \times 100 = 35.0\%$; Net Profit = $(\$1\,200\,000 - \$780\,000 - \$204\,000) \div \$1\,200\,000 \times 100 = 18.0\%$.

Kelmswood is more profitable per sales dollar: it keeps 40 cents of gross profit and 20 cents of net profit in every sales dollar, against Drayton's 35 cents and 18 cents. Drayton earns a much larger *total* net profit (\$216 000 against Kelmswood's \$100 000), but that is only because it sells far more — total dollars reflect **size**, not efficiency. Vertical analysis removes the size difference by measuring each firm against its own net sales, showing that Kelmswood converts each sales dollar into profit more effectively even though it is the smaller business.

Question 13

2025: Cost of Sales = $\$320\,000 \div \$500\,000 = 64.0\%$, Gross Profit **36.0%**; Total Expenses \$100 000 → 20.0%; Net Profit **16.0%**. 2026: Cost of Sales = $\$372\,000 \div \$600\,000 = 62.0\%$, Gross Profit **38.0%**; Total Expenses \$150 000 → 25.0%; Net Profit **13.0%**.

The **Gross Profit percentage rose** (36.0% → 38.0%) while the **Net Profit percentage fell** (16.0% → 13.0%) — the two moved in **opposite directions**. The rise in the gross margin shows the **trading margin improved** (the business bought more cheaply or lifted selling prices). Yet net profit still fell, which is only possible if the **other expenses rose even faster** than the gain in gross profit: Total Expenses climbed from 20.0% to 25.0% of net sales (+5.0 points), more than swallowing the 2.0-point gain in gross margin. Within the expenses, the **problem line is Wages**, which rose from 12.0% to 16.0% of net sales (+4.0 points), with Advertising up a further 1.0 point.

Question 14

2025: Cost of Sales = $\$300\,000 \div \$500\,000 = 60.0\%$, Gross Profit **40.0%**; Total Expenses $\$120\,000 \rightarrow 24.0\%$; Net Profit $\$80\,000 \rightarrow 16.0\%$. 2026: Cost of Sales = $\$330\,000 \div \$500\,000 = 66.0\%$, Gross Profit **34.0%**; Total Expenses **24.0%**; Net Profit $\$50\,000 \rightarrow 10.0\%$.

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	66.0	+6.0
Gross Profit	40.0	34.0	-6.0
Total Expenses	24.0	24.0	0.0
Net Profit	16.0	10.0	-6.0

The **problem line is Cost of Sales**, up 6.0 points (60.0% $\rightarrow$ 66.0%); with expenses steady at 24.0%, the whole 6.0-point fall in Net Profit % is a trading-margin problem. **Modelling the fix:** if the business restored Cost of Sales to 60.0% of net sales (\$300 000) with net sales and expenses unchanged, Gross Profit would return to \$200 000 (40.0%) and Net Profit to $\$200\,000 - \$120\,000 = \$80\,000$ (16.0%) — recovering **\$30 000**, or 6.0 points of net profit. Two suitable strategies: **negotiate lower cost prices** (or change supplier) to bring cost of sales back to 60 cents in the sales dollar, and **review selling prices / the mark-up** so selling prices keep pace with cost prices.

Question 15

- Cost of Sales = $62.0\% \times \$600\,000 = 0.62 \times \$600\,000 = \$372\,000$; Gross Profit = $\$600\,000 - \$372\,000 = \$228\,000$, which is $(\$228\,000 \div \$600\,000) \times 100 = 38.0\%$ of net sales.
- Wages = $15.0\% \times \$400\,000 = 0.15 \times \$400\,000 = \$60\,000$.
- Net Sales = $\text{Gross Profit} \div \text{Gross Profit \%} = \$150\,000 \div 0.30 = \$500\,000$; Cost of Sales = $\$500\,000 - \$150\,000 = \$350\,000$, which is $(\$350\,000 \div \$500\,000) \times 100 = 70.0\%$ of net sales.
- Net Profit % = $100.0\% - \text{Cost of Sales } 60.0\% - \text{Total Expenses } 25.0\% = 15.0\%$; Net Profit = $15.0\% \times \$500\,000 = 0.15 \times \$500\,000 = \$75\,000$.

Question 16

- Vertical analysis** of the Income Statement expresses **every item as a percentage of a single base figure**; for the Income Statement that base is **Net Sales**, set at 100%, so each other line (Cost of Sales, Gross Profit, each expense, Total Expenses and Net Profit) is shown as $(\text{item} \div \text{net sales}) \times 100$.
- Expressing items as a **percentage of net sales** removes the effect of size: a larger firm has larger dollar figures simply because it sells more, but once every line is measured against its own net sales, two firms of different size can be compared on the same 100-cent scale, revealing which keeps more of each sales dollar as gross and net profit.
- The **problem line** is the item whose percentage has moved **unfavourably** — an expense or Cost of Sales that has risen as a share of net sales, or a profit line that has fallen — and is therefore responsible for a drop in the Net Profit percentage. Vertical analysis identifies it by restating every line as a percentage, so the change shows up on one specific line rather than being hidden inside a larger total.
- Cost of Sales % and Gross Profit % must add to 100%** because Gross Profit is defined as Net Sales less Cost of Sales; when Net Sales is the 100% base, whatever share of it is consumed by Cost of Sales (say 60%) leaves exactly the rest (40%) as Gross Profit, so the two shares of the same base necessarily total 100%.

Question 17

Correctly, Gross Profit = $\$600\,000 - \$390\,000 = \$210\,000 \rightarrow (\$210\,000 \div \$600\,000) \times 100 = 35.0\%$; Total Expenses = $\$78\,000 + \$24\,000 + \$12\,000 + \$6\,000 = \$120\,000 \rightarrow 20.0\%$; Net Profit = $\$90\,000 \rightarrow (\$90\,000 \div \$600\,000) \times 100 = 15.0\%$.

Action (i) records closing inventory at \$70 000 when both the cards and the count say \$40 000 — a **fictitious inventory gain of \$30 000**. It does **not** touch Cost of Sales: the business records its inventory on **inventory cards**, so Cost of Sales is taken from the cards as the goods go out and is not derived from the closing-inventory figure. Cost of Sales therefore stays at \$390 000 (65.0%) and **Gross Profit stays at \$210 000 — still 35.0%**. The invented gain is reported **after Gross Profit** (section 12A), lifting the **Adjusted Gross Profit** to \$240 000 (40.0%). Action (ii)

reclassifies \$12 000 of genuine wages as drawings, cutting Total Expenses to \$108 000 (18.0%). Together the two actions report Net Profit of \$240 000 – \$108 000 = \$132 000, a Net Profit % of $(\$132\,000 \div \$600\,000) \times 100 = 22.0\%$ — enough to clear the 20% benchmark, against a true 15.0%.

The percentage action (i) leaves untouched is therefore the **Gross Profit percentage**: the whole 7.0-point inflation of the net margin sits **below the gross-profit line**. That is also what gives the manipulation away — the distorted statement no longer closes on Gross Profit, because Total Expenses 18.0% + Net Profit 22.0% = 40.0%, not the 35.0% reported as Gross Profit; 5.0 points of invented “gain” have been inserted between the two.

Both actions breach the owner’s ethical duty to present the reports as a **faithful representation** — complete, neutral and free from bias. Action (i) records \$30 000 of inventory that is **not on hand**, inventing an inventory gain that never occurred and so overstating Net Profit and the Inventory asset; action (ii) disguises a real business cost — wages the business genuinely incurred — as drawings, so the expense structure looks leaner than it truly is. The distortion also destroys **comparability**: a lender matching Sedgefield’s reported 22.0% Net Profit against the 20% industry benchmark or against the business’s own past would be comparing manufactured percentages with real ones. Relying on the inflated structure, the **lender** may advance a loan the business cannot in fact service — exposing the lender to loss and the owner to loss of trust and possible legal consequences once the true position emerges. The owner should **value closing inventory at the \$40 000 actually counted and classify the \$12 000 as the wages expense it is**, reporting the true structure — Gross Profit 35.0% and Net Profit 15.0%.

Question 18

2025: Net Sales = \$620 000 – \$20 000 = \$600 000; Cost of Sales = \$360 000 ÷ \$600 000 = **60.0%**, Gross Profit **40.0%**; Wages 12.0%, Rent 5.0%, Advertising 4.0%, Interest 3.0% → Total **24.0%**; Net Profit \$96 000 → **16.0%**.

2026: Net Sales = \$830 000 – \$30 000 = \$800 000; Cost of Sales = \$512 000 ÷ \$800 000 = **64.0%**, Gross Profit **36.0%**; Wages 14.0%, Rent 5.0%, Advertising 4.0%, Interest 3.0% → Total **26.0%**; Net Profit \$80 000 → **10.0%**.

Vertical analysis of the Income Statement (comparative, % of net sales)

Item	2025 %	2026 %	Change (pts)
Cost of Sales	60.0	64.0	+4.0
Gross Profit	40.0	36.0	–4.0
Wages	12.0	14.0	+2.0
Rent expense	5.0	5.0	0.0
Advertising	4.0	4.0	0.0
Interest expense	3.0	3.0	0.0
Total Expenses	24.0	26.0	+2.0
Net Profit	16.0	10.0	–6.0

Net Profit % fell **6.0 points** (16.0% → 10.0%). Vertical analysis splits the fall between **two problem lines**. **Cost of Sales** rose 4.0 points (60.0% → 64.0%), cutting Gross Profit % by 4.0 points — the larger share of the fall. **Wages** rose 2.0 points (12.0% → 14.0%), lifting Total Expenses % by the remaining 2.0 points (Rent, Advertising and Interest each held steady). The two together account for the full 6.0-point drop (4.0 + 2.0). Strategies: for **Cost of Sales**, negotiate lower supplier cost prices or review the selling price / mark-up to rebuild the trading margin; for **Wages**, review staffing levels and hours so wage costs fall back into line with sales.

Chapter 18 Evaluating performance — 18E Assessing liquidity: Working Capital and Quick Asset Ratios

Theory

A business can be trading profitably and still fail, because profit is not the same thing as cash. To go on operating, a business must also be able to pay its bills **as they fall due** — the wages next week, the supplier's account at the end of the month, the GST owed to the Australian Taxation Office. **Liquidity** is the ability of a business to **meet its short-term debts as they fall due** using its short-term (current) assets. Where profitability asks “*is the business making money?*”, liquidity asks the more immediate question “*can the business pay what it owes right now?*” — and a business that cannot is in trouble however profitable it looks on paper.

Liquidity is assessed from the **Balance Sheet**, because it is the Balance Sheet that reports the **current assets** (cash, and the other assets reasonably expected to be **converted to cash, sold or consumed** within 12 months after the end of the reporting period — Bank and Accounts Receivable, which become cash; Inventory, which is sold; and prepaid expenses, which are consumed) and the **current liabilities** (the obligations the business is reasonably expected to **settle within 12 months** after the end of the reporting period — Accounts Payable, GST Clearing, a bank overdraft and any loan repayments due within the year). Two financial indicators compare the two.

The Working Capital Ratio (WCR). The **Working Capital Ratio** measures a business's ability to meet its short-term debts by comparing its **total current assets** with its **total current liabilities**:

$$\text{Working Capital Ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

It is expressed as a number of dollars of current assets **to each \$1** of current liabilities — an **X : 1** ratio, conventionally to **two decimal places**. A WCR of **2.00 : 1** means the business holds **\$2.00 of current assets for every \$1.00 of current liabilities**, so it could cover its short-term debts twice over. As a rough guide a WCR of **2 : 1** is often regarded as satisfactory, but there is no universally “correct” figure: what matters is that current assets **exceed** current liabilities (a ratio above 1 : 1), and that the ratio is read against a **benchmark**, a **trend** over time, or a **similar business** (the qualitative characteristic of **comparability**).

The Quick Asset Ratio (QAR). The Working Capital Ratio treats every current asset as though it were available to pay debts, but two of them are not so readily available. **Inventory** must first be **sold** — and it may sell slowly, or only at a discount, or not at all — before it becomes cash, and **prepaid expenses** (such as prepaid insurance or rent paid in advance) can **never** be turned back into cash to pay a creditor; they have already been paid, and only a service will be received in return. The **Quick Asset Ratio** (also called the acid-test ratio) strips these two out to measure the business's ability to meet its short-term debts from its **quick (immediately available) assets**:

$$\text{Quick Asset Ratio} = \frac{\text{current assets} - \text{inventory} - \text{prepaid expenses}}{\text{current liabilities}}$$

The **numerator** — current assets less inventory and prepaid expenses — leaves the **quick assets**: mainly Bank and Accounts Receivable, the assets that are already cash or will become cash almost immediately. The **denominator** is the **whole of current liabilities** — every debt due within the next 12 months, **including a bank overdraft** if the business has one. Only the **numerator** is reduced: the QAR is a **stricter** test than the Working Capital Ratio because fewer *assets* count in the top, not because fewer *debts* count in the bottom — the business must still be able to cover every current liability. The QAR is also expressed as an **X : 1** ratio to **two decimal places**; a benchmark of about **1 : 1** is often used, meaning the business holds roughly \$1 of quick assets for every \$1 of the short-term debts it must be able to meet.

Worked model. *Marisol Traders* reports the following current items at 30 June 2025: Bank \$10 000, Accounts Receivable \$30 000, Inventory \$48 000 and Prepaid insurance \$12 000 (current assets of \$100 000); Accounts Payable \$34 000 and GST Clearing \$6 000 (current liabilities of \$40 000).

- **WCR** = \$100 000 ÷ \$40 000 = **2.50 : 1** — the business holds \$2.50 of current assets for every \$1.00 of current liabilities, comfortably above the 2 : 1 guide.
- **Quick assets** = \$100 000 – \$48 000 (inventory) – \$12 000 (prepaid) = **\$40 000**; the denominator is the **full current liabilities** of \$40 000. **QAR** = \$40 000 ÷ \$40 000 = **1.00 : 1**.

The two ratios tell a fuller story together than either does alone. The healthy-looking WCR of 2.50 : 1 falls to a QAR of exactly 1.00 : 1 once inventory and prepaid expenses are removed, revealing that **the whole of the “extra” cover in the Working Capital Ratio is tied up in inventory and prepayments** — assets that cannot immediately pay a creditor. At 1.00 : 1 *Marisol Traders* can just meet its immediate debts from its quick assets, but has no margin to spare if a debtor pays late.

The effect of a bank overdraft. When a business has a **bank overdraft** it is *overdrawn* at the bank, so there is **no Bank current asset** — the overdraft appears instead among the current liabilities. A bank overdraft **is** a current liability — a debt the business must be able to cover — so it **stays in** the denominator of the Quick Asset Ratio, alongside Accounts Payable, GST Clearing and any other current liabilities. It is **not** deducted. So a business with quick assets of \$30 000 and current liabilities of \$40 000 that **include a \$10 000 overdraft** has a QAR of $\$30\,000 \div \$40\,000 = 0.75 : 1$ — the overdraft counts against the quick assets just as any other short-term debt does. The denominator of the QAR is always the **whole** of current liabilities; the only figures stripped out for the QAR are inventory and prepaid expenses, and they come out of the **numerator**.

Interpreting the ratios: too low and too high. A ratio **below** the benchmark warns of a **liquidity problem**. A WCR under 1 : 1 (current liabilities exceed current assets), or a QAR well under 1 : 1, means the business may be **unable to pay its debts as they fall due** — it may have to sell non-current assets, borrow in a hurry, or delay paying suppliers, and in the worst case becomes insolvent. But a ratio that is **too high** is not automatically good either. A WCR of, say, 5 : 1 or a QAR of 3 : 1 may mean the business is holding **idle resources** that are earning little or nothing — a large cash balance sitting in the bank rather than being invested or used to expand, **too much inventory** gathering dust, or **debtors allowed to run too long**. Those resources have an **opportunity cost**: they could be put to more profitable use. Good liquidity management aims for a **balance** — enough liquid assets to meet debts comfortably and absorb a setback, but not so many that the business sacrifices the return it could earn by using them. As always, whether a ratio is “too low” or “too high” is a judgement made **against a benchmark**, a **trend** or a **comparable business**, not against a single fixed number.

Liquidity is not profitability. The two indicators measure different things and a business needs **both**. **Profitability** is the ability to **earn a profit** — measured by indicators such as the Net Profit Margin (net profit $\div$ net sales $\times$ 100) and the Return on Owner’s Investment, which relate profit to sales or to the owner’s stake. **Liquidity** is the ability to **pay short-term debts as they fall due** — measured by the Working Capital and Quick Asset Ratios, which compare current assets with current liabilities. The two do **not** move together. A business can be **highly profitable yet illiquid**: if its profit is locked up in slow-moving inventory, in debtors who have not yet paid, or in newly purchased non-current assets, it can run short of the cash to pay this week’s bills even while its Income Statement shows a healthy profit. A business can equally be **very liquid yet unprofitable**: it may hold plenty of cash but be making losses that will, in time, drain that cash away. Profit does not automatically become cash, and cash is not the same as profit — which is exactly why the Balance Sheet’s liquidity indicators are read **alongside** the Income Statement’s profitability indicators, never instead of them.

Ethical considerations. The Working Capital and Quick Asset Ratios are watched closely by the people a business asks to trust it in the short term — **suppliers** deciding whether to extend credit, a **bank** deciding whether to grant or continue an overdraft, and **employees** relying on being paid. Because those decisions turn on the reported current assets and current liabilities, the owner has an ethical duty to prepare the Balance Sheet as a **faithful representation** — **complete, free from material error and neutral (without bias)**. The temptation is to “**window-dress**” the liquidity position: to **misclassify a current liability as non-current** (for example, showing the portion of a loan due next month among the non-current liabilities) so the current-liabilities total shrinks and both ratios improve; to **omit a current liability** such as an amount owing to a supplier or GST owed to the ATO; or to **overstate quick assets** by recording accounts receivable for goods not yet delivered, or **inventory** that is not on hand. Each of these makes the business look more able to meet its short-term debts than it truly is. The manipulation changes only the *appearance*: the debts still fall due and the cash to pay them still has to be found, so a supplier or bank that extends credit on the strength of a flattered ratio bears a risk it never agreed to, and the business that distorted its figures damages its own credibility — and its access to future credit — the moment the true position emerges. Honest classification of every current asset and current liability, and inventory and receivables recorded at the amounts genuinely on hand and owed, are what make the liquidity ratios worth relying on.

Worked examples (scaffolded)

Example 1 — calculating and interpreting the WCR and QAR from a Balance Sheet



Coastal Crafts is a trading business. Its classified Balance Sheet is shown below. The owner wants to know whether the business can meet its short-term debts.

Balance Sheet of Coastal Crafts as at 30 June 2025

	\$	\$
Current Assets		
Bank	12 000	
Accounts Receivable	28 000	
Inventory	44 000	
Prepaid insurance	6 000	90 000
Non-Current Assets		
Shop fittings	30 000	
Motor vehicle	30 000	60 000
Total Assets		150 000
Current Liabilities		
Accounts Payable	27 000	
GST Clearing	3 000	30 000
Non-Current Liabilities		
Loan – Ashvale Bank		50 000
Total Liabilities		80 000
Owner's Equity		
Capital		70 000
Total Liabilities and Owner's Equity		150 000

Working	Comment
Current assets = \$12 000 + \$28 000 + \$44 000 + \$6 000 = \$90 000 ; current liabilities = \$27 000 + \$3 000 = \$30 000 .	Read the two current-section totals straight off the Balance Sheet. Ignore the non-current items — liquidity is about the <i>short term</i> .
WCR = \$90 000 ÷ \$30 000 = 3.00 : 1 .	Current assets ÷ current liabilities, written X : 1 to two decimal places. \$3.00 of current assets to each \$1.00 of current liabilities.
Quick assets = \$90 000 – \$44 000 (inventory) – \$6 000 (prepaid insurance) = \$40 000 .	Strip out inventory (must be sold first) and prepaid insurance (cannot be turned back into cash).
Denominator = current liabilities = \$30 000 (the whole of current liabilities).	The QAR reduces only the numerator (inventory and prepaid removed); the denominator is always the full current liabilities — nothing is deducted from it.
QAR = \$40 000 ÷ \$30 000 = 1.33 : 1 .	\$1.33 of quick assets to each \$1.00 of short-term debt.

∴ with a WCR of **3.00 : 1** and a QAR of **1.33 : 1**, *Coastal Crafts* is comfortably liquid: even after inventory and prepayments are excluded it still holds \$1.33 of immediately available assets for every \$1 of short-term debt, so it can readily meet its debts as they fall due.

Example 2 — a Balance Sheet with a bank overdraft

Harding Homewares is a trading business that is overdrawn at the bank. Its classified Balance Sheet is shown below. Calculate and interpret its two liquidity ratios.

Balance Sheet of Harding Homewares as at 30 June 2025

	\$	\$
Current Assets		
Accounts Receivable	36 000	
Inventory	60 000	
Prepaid insurance	4 000	100 000
Non-Current Assets		
Equipment	40 000	
Motor vehicle	60 000	100 000
Total Assets		200 000
Current Liabilities		
Bank overdraft	10 000	
Accounts Payable	34 000	
GST Clearing	6 000	50 000
Non-Current Liabilities		
Loan – Marlin Bank		70 000
Total Liabilities		120 000
Owner's Equity		
Capital		80 000
Total Liabilities and Owner's Equity		200 000

Working	Comment
Current assets = \$36 000 + \$60 000 + \$4 000 = \$100 000 ; current liabilities = \$10 000 + \$34 000 + \$6 000 = \$50 000 .	Because the business is overdrawn there is no Bank current asset — the overdraft sits in the current liabilities instead.
WCR = \$100 000 ÷ \$50 000 = 2.00 : 1 .	On the face of it a satisfactory 2 : 1 result.
Quick assets = \$100 000 – \$60 000 – \$4 000 = \$36 000 .	Inventory (\$60 000) and prepaid insurance (\$4 000) are removed.
Denominator = current liabilities = \$50 000, including the \$10 000 overdraft.	A bank overdraft is itself a current liability the business must cover, so it stays in the denominator — it is not deducted.
QAR = \$36 000 ÷ \$50 000 = 0.72 : 1 .	Only \$0.72 of quick assets to each \$1.00 of short-term debt.

∴ the healthy-looking WCR of **2.00 : 1** disguises a **QAR of just 0.72 : 1**. So much of *Harding Homewares'* current assets is tied up in inventory (\$60 000 of the \$100 000) that, once inventory and prepayments are excluded, its quick assets **fall short** of the debts that must be met in the short term. The business is really only able to pay those debts **if it can sell its inventory in time** — a warning the Working Capital Ratio alone would have hidden.

Worked examples (unscaffolded)

Example 3 — two businesses with the same WCR but different QARs

Lakeview Living and *Ridgeway Retail* each report **current assets of \$80 000 and current liabilities of \$40 000**, so both have a Working Capital Ratio of $\$80\,000 \div \$40\,000 = \mathbf{2.00 : 1}$. Their current assets are made up very differently, however. *Lakeview* holds Bank \$20 000, Accounts Receivable \$30 000, Inventory \$20 000 and Prepaid insurance \$10 000; *Ridgeway* holds Bank \$5 000, Accounts Receivable \$15 000, Inventory \$55 000 and Prepaid insurance \$5 000. Neither has a bank overdraft. Calculate each Quick Asset Ratio and state which business is more liquid.

Lakeview's quick assets are $\$80\,000 - \$20\,000 - \$10\,000 = \$50\,000$, so its $\text{QAR} = \$50\,000 \div \$40\,000 = \mathbf{1.25 : 1}$. *Ridgeway's* quick assets are $\$80\,000 - \$55\,000 - \$5\,000 = \$20\,000$, so its $\text{QAR} = \$20\,000 \div \$40\,000 = \mathbf{0.50 : 1}$. Although the two businesses look **identical on the Working Capital Ratio** (both 2.00 : 1), the Quick Asset Ratio tells them sharply apart: *Lakeview* holds \$1.25 of quick assets per \$1 of short-term debt, while *Ridgeway* holds only 50 cents. *Ridgeway* has locked \$55 000 of its \$80 000 current assets into inventory, so it could not meet its short-term debts without first selling that stock.

$\therefore$ *Lakeview Living* is the **more liquid** business. The example shows why the QAR is read alongside the WCR — two businesses with the same Working Capital Ratio can have very different abilities to pay their debts once the assets that cannot quickly become cash are removed.

Example 4 — profitable but illiquid

Summit Supplies is a trading business. For the year ended 30 June 2025 it reports **Net Sales of \$400 000 and a Net Profit of \$60 000**, and at 30 June 2025 it has **current assets of \$60 000** (Bank \$3 000, Accounts Receivable \$12 000, Inventory \$40 000, Prepaid insurance \$5 000) and **current liabilities of \$50 000** (Accounts Payable \$46 000, GST Clearing \$4 000). Calculate the Net Profit Margin and the two liquidity ratios, and explain how the business can be profitable yet face a liquidity problem.

The **Net Profit Margin** = $\$60\,000 \div \$400\,000 \times 100 = \mathbf{15.0\%}$, so the business keeps 15 cents of net profit in every sales dollar — a healthy, profitable result. Its **WCR** = $\$60\,000 \div \$50\,000 = \mathbf{1.20 : 1}$, only just above 1 : 1, and its **quick assets** = $\$60\,000 - \$40\,000 - \$5\,000 = \$15\,000$, giving a **QAR** = $\$15\,000 \div \$50\,000 = \mathbf{0.30 : 1}$. The QAR shows the business holds only **30 cents of quick assets for every \$1 of short-term debt** — it could not come close to paying its immediate debts from cash and receivables alone.

$\therefore$ *Summit Supplies* is **profitable but illiquid**. Profitability and liquidity measure different things: the 15.0% Net Profit Margin shows the trading is earning good profit, but that profit is **tied up in \$40 000 of inventory** rather than sitting in cash, so the business is dangerously short of the quick assets it needs to pay its bills as they fall due. A business in this position must **convert inventory to cash more quickly**, tighten the collection of its debtors, or arrange finance — being profitable is no guarantee of being able to pay the bills.

Practice questions — scaffolded

Question 1

Fenwick Furnishings is a trading business. Its classified Balance Sheet is shown below.

Balance Sheet of Fenwick Furnishings as at 30 June 2025

	\$	\$
Current Assets		
Bank	8 000	
Accounts Receivable	22 000	
Inventory	30 000	
Prepaid insurance	10 000	70 000
Non-Current Assets		
Equipment	30 000	
Motor vehicle	30 000	60 000
Total Assets		130 000
Current Liabilities		
Accounts Payable	33 000	
GST Clearing	2 000	35 000
Non-Current Liabilities		
Loan – Ashvale Bank		40 000
Total Liabilities		75 000

\$

\$

Owner's Equity

Capital	55 000
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Total Liabilities and

130 000

Owner's Equity

- Calculate the Working Capital Ratio.
- Calculate the Quick Asset Ratio.
- Interpret the two ratios, stating whether the business appears able to meet its short-term debts.

Question 2

Brindle Books is overdrawn at the bank. At 30 June 2025 its current assets are Accounts Receivable \$40 000, Inventory \$50 000 and Prepaid insurance \$6 000; its current liabilities are Bank overdraft \$12 000, Accounts Payable \$44 000 and GST Clearing \$4 000.

- Calculate the Working Capital Ratio.
- Calculate the Quick Asset Ratio.
- Explain in one sentence why the bank overdraft is **included** in the current liabilities used to calculate the Quick Asset Ratio.

Question 3

Tidewater Traders, a trading business, reports at 30 June 2025: current assets of Bank \$10 000, Accounts Receivable \$30 000, Inventory \$70 000 and Prepaid insurance \$10 000; current liabilities of Accounts Payable \$45 000 and GST Clearing \$3 000.

- Calculate the Working Capital Ratio.
- Calculate the Quick Asset Ratio.
- Explain why **inventory** and **prepaid expenses** are excluded from the Quick Asset Ratio, and state what the gap between this business's two ratios reveals about its liquidity.

Question 4

Oakhaven Outfitters, a trading business, reports at 30 June 2025: current assets of Bank \$60 000, Accounts Receivable \$40 000, Inventory \$40 000 and Prepaid insurance \$10 000; current liabilities of Accounts Payable \$28 000 and GST Clearing \$2 000.

- Calculate the Working Capital Ratio.
- Calculate the Quick Asset Ratio.
- Discuss** whether ratios this high are necessarily a sign that the business is well managed.

Question 5

Parkgate Provisions, a trading business, reports **Net Sales of \$500 000 and a Net Profit of \$75 000** for the year ended 30 June 2025. At 30 June 2025 its current assets are Bank \$4 000, Accounts Receivable \$14 000, Inventory \$25 000 and Prepaid insurance \$5 000; its current liabilities are Accounts Payable \$37 000 and GST Clearing \$3 000.

- Calculate the Net Profit Margin.
- Calculate the Working Capital Ratio and the Quick Asset Ratio.
- Explain the difference between **liquidity** and **profitability**, and state how this business can be profitable yet face a liquidity problem.

Question 6

Calder & Co is applying to a supplier for extended credit terms. Its correct current assets at 30 June 2025 are Bank \$6 000, Accounts Receivable \$24 000, Inventory \$44 000 and Prepaid insurance \$6 000; its correct current liabilities are Accounts Payable \$40 000, GST Clearing \$4 000 and the \$6 000 portion of a bank loan due within the next 12 months. To make the business look more able to pay its short-term debts, the owner proposes to **report the \$6 000 current portion of the loan among the non-current liabilities**.

- Calculate the correct Working Capital Ratio and Quick Asset Ratio.
- Calculate the Working Capital Ratio and Quick Asset Ratio the reclassification would produce.
- Discuss** the ethical considerations raised by the owner's proposal, referring to a relevant qualitative characteristic and to the effect on the supplier.

Practice questions — unscaffolded

Question 7

Harborline Supplies, a trading business, reports the classified Balance Sheet below. Calculate the Working Capital Ratio and the Quick Asset Ratio, and state whether the business appears able to meet its short-term debts.

Balance Sheet of Harborline Supplies as at 30 June 2025

	\$	\$
Current Assets		
Bank	14 000	
Accounts Receivable	26 000	
Inventory	40 000	
Prepaid insurance	4 000	84 000
Non-Current Assets		
Shop fittings	36 000	
Motor vehicle	40 000	76 000
Total Assets		160 000
Current Liabilities		
Accounts Payable	39 000	
GST Clearing	3 000	42 000
Non-Current Liabilities		
Loan – Rowan Bank		60 000
Total Liabilities		102 000
Owner's Equity		
Capital		58 000
Total Liabilities and Owner's Equity		160 000

Question 8

Vellore Trading is overdrawn at the bank. At 30 June 2025 its current assets are Accounts Receivable \$30 000, Inventory \$54 000 and Prepaid insurance \$6 000; its current liabilities are Bank overdraft \$15 000, Accounts Payable \$41 000 and GST Clearing \$4 000. Calculate the Working Capital Ratio and the Quick Asset Ratio, and interpret each.

Question 9

Castlereagh Retail, a trading business, reports current assets and current liabilities as follows. At 30 June 2024: Bank \$6 000, Accounts Receivable \$14 000, Inventory \$32 000, Prepaid insurance \$8 000; Accounts Payable \$47 000, GST Clearing \$3 000. At 30 June 2025: Bank \$20 000, Accounts Receivable \$30 000, Inventory \$40 000, Prepaid

insurance \$6 000; Accounts Payable \$45 000, GST Clearing \$3 000. Calculate the Working Capital Ratio and the Quick Asset Ratio in each year, and explain what the change shows about the business's liquidity.

Question 10

Dunmore Stores and *Ellary Emporium* each report **current assets of \$100 000 and current liabilities of \$50 000**. *Dunmore* holds Bank \$25 000, Accounts Receivable \$35 000, Inventory \$30 000 and Prepaid insurance \$10 000; *Ellary* holds Bank \$6 000, Accounts Receivable \$20 000, Inventory \$66 000 and Prepaid insurance \$8 000. Calculate the Working Capital Ratio and the Quick Asset Ratio for each, and discuss which business is more able to meet its short-term debts and why.

Question 11

Explain each of the following.

- What **liquidity** means, and why a business assesses it from the **Balance Sheet**.
- Why the **Quick Asset Ratio** excludes **inventory** and **prepaid expenses** from current assets.
- Why a **bank overdraft** is **not** removed from current liabilities when calculating the Quick Asset Ratio.
- Why a business's Working Capital Ratio and Quick Asset Ratio can give **different impressions** of its liquidity, and why both are worth calculating.

Question 12

Answer each part using the liquidity-ratio formulas.

- A business has a Working Capital Ratio of 2.00 : 1 and current liabilities of \$55 000. Calculate its current assets.
- A business has a Quick Asset Ratio of 0.60 : 1 and current liabilities of \$50 000. Calculate its quick assets.
- A business has current assets of \$120 000 (including Inventory \$60 000 and prepaid expenses \$10 000) and current liabilities of \$48 000 (including a bank overdraft of \$8 000). Calculate its Working Capital Ratio and its Quick Asset Ratio.

Question 13

Northgate Stores, a trading business, reports at 30 June 2025: current assets of Bank \$56 000, Accounts Receivable \$40 000, Inventory \$30 000 and Prepaid insurance \$9 000; current liabilities of Accounts Payable \$27 000 and GST Clearing \$3 000. Calculate the Working Capital Ratio and the Quick Asset Ratio, and **discuss** whether these high ratios necessarily indicate that the business is being managed well.

Question 14

Brookmere Trading, a trading business, reports **Net Sales of \$600 000 and a Net Profit of \$108 000** for the year ended 30 June 2025, yet its owner is struggling to pay suppliers. At 30 June 2025 its current assets are Bank \$2 000, Accounts Receivable \$16 000, Inventory \$33 000 and Prepaid insurance \$5 000; its current liabilities are Accounts Payable \$47 000 and GST Clearing \$3 000. Calculate the Net Profit Margin, the Working Capital Ratio and the Quick Asset Ratio, and explain how a business can be this profitable yet unable to pay its debts.

Question 15

Distinguish between **liquidity** and **profitability**, and explain why a business needs to be both liquid and profitable, using an example of a business that is one but not the other.

Question 16

Whitfield Wholesalers, a trading business, reports the classified Balance Sheet below. Calculate the Working Capital Ratio and the Quick Asset Ratio, interpret each, and suggest **one** action the business could take to improve its liquidity.

Balance Sheet of Whitfield Wholesalers as at 30 June 2025

	\$	\$
Current Assets		
Accounts Receivable	44 000	
Inventory	56 000	
Prepaid insurance	10 000	110 000
Non-Current Assets		
Warehouse fittings	60 000	
Forklift	40 000	100 000
Total Assets		210 000
Current Liabilities		
Bank overdraft	5 000	
Accounts Payable	46 000	
GST Clearing	4 000	55 000
Non-Current Liabilities		
Loan – Sterling Bank		80 000
Total Liabilities		135 000
Owner's Equity		
Capital		75 000
Total Liabilities and Owner's Equity		210 000

Question 17

Delmore Distributors is asking a major supplier to extend its credit limit. Its correct current assets at 30 June 2025 are Bank \$8 000, Accounts Receivable \$22 000, Inventory \$54 000 and Prepaid insurance \$6 000; its correct current liabilities are Accounts Payable \$44 000, GST Clearing \$8 000 and the \$8 000 portion of a bank loan due within the next 12 months. To improve the ratios shown to the supplier, the owner proposes to (i) **report the \$8 000 current portion of the loan among the non-current liabilities**, and (ii) **record \$10 000 of accounts receivable for an order that has not yet been delivered to the customer**. Calculate the correct Working Capital Ratio and Quick Asset Ratio, and the ratios that proposal (i) alone would produce, then **discuss** the ethical considerations raised by both proposals, referring to a relevant qualitative characteristic and to the effect on the supplier.

Question 18

Ashford Traders and *Bexley Trading* are two trading businesses of a similar size. *Ashford* reports current assets of Bank \$18 000, Accounts Receivable \$30 000, Inventory \$34 000 and Prepaid insurance \$8 000, and current liabilities of Accounts Payable \$42 000 and GST Clearing \$3 000. *Bexley* reports current assets of Bank \$4 000, Accounts Receivable \$20 000, Inventory \$64 000 and Prepaid insurance \$8 000, and current liabilities of Accounts Payable \$45 000 and GST Clearing \$3 000. Calculate the Working Capital Ratio and the Quick Asset Ratio for each business, and **justify** which faces the greater risk of being unable to meet its short-term debts.

Answers

1.
 - a. **WCR 2.00 : 1** b. **QAR 0.86 : 1** c. Can meet short-term debts on the WCR, but the QAR below 1 : 1 shows a reliance on selling inventory — see solutions
2.
 - a. **WCR 1.60 : 1** b. **QAR 0.67 : 1** c. The overdraft is itself a current liability the business must cover, so it stays in the denominator — see solutions
3.
 - a. **WCR 2.50 : 1** b. **QAR 0.83 : 1** c. See solutions
4.
 - a. **WCR 5.00 : 1** b. **QAR 3.33 : 1** c. Not necessarily — idle resources have an opportunity cost — see solutions
5.
 - a. **NPM 15.0%** b. **WCR 1.20 : 1**, **QAR 0.45 : 1** c. Profitable but profit is tied up in inventory — see solutions
6.
 - a. **WCR 1.60 : 1**, **QAR 0.60 : 1** b. **WCR 1.82 : 1**, **QAR 0.68 : 1** c. See solutions
7. **WCR 2.00 : 1**; **QAR 0.95 : 1** — can meet debts, but quick assets just short of the 1 : 1 guide
8. **WCR 1.50 : 1**; **QAR 0.50 : 1** — see solutions
9. 2024 **WCR 1.20 : 1**, **QAR 0.40 : 1**; 2025 **WCR 2.00 : 1**, **QAR 1.04 : 1** — liquidity has improved
10. Dunmore **WCR 2.00 : 1**, **QAR 1.20 : 1**; Ellary **WCR 2.00 : 1**, **QAR 0.52 : 1**; Dunmore is more liquid
11. See solutions
12.
 - a. Current assets **\$110 000** b. Quick assets **\$30 000** c. **WCR 2.50 : 1**, **QAR 1.04 : 1**
13. **WCR 4.50 : 1**; **QAR 3.20 : 1** — high ratios are not automatically good — see solutions
14. **NPM 18.0%**; **WCR 1.12 : 1**; **QAR 0.36 : 1** — profitable but illiquid — see solutions
15. See solutions
16. **WCR 2.00 : 1**; **QAR 0.80 : 1** — see solutions
17. Correct **WCR 1.50 : 1**, **QAR 0.50 : 1**; after proposal (i) **WCR 1.73 : 1**, **QAR 0.58 : 1** — see solutions
18. Ashford **WCR 2.00 : 1**, **QAR 1.07 : 1**; Bexley **WCR 2.00 : 1**, **QAR 0.50 : 1**; Bexley faces the greater risk

Fully-worked solutions

Question 1

- a. Current assets = \$8 000 + \$22 000 + \$30 000 + \$10 000 = \$70 000; current liabilities = \$33 000 + \$2 000 = \$35 000. **WCR** = $\$70\,000 \div \$35\,000 = \mathbf{2.00 : 1}$.
- b. Quick assets = \$70 000 – \$30 000 (inventory) – \$10 000 (prepaid insurance) = \$30 000; the denominator is the full current liabilities of \$35 000. **QAR** = $\$30\,000 \div \$35\,000 = \mathbf{0.86 : 1}$.
- c. On the **Working Capital Ratio** the business looks able to meet its short-term debts — it holds \$2.00 of current assets for every \$1.00 of current liabilities, on the 2 : 1 guide. But the **Quick Asset Ratio of 0.86 : 1 is below 1 : 1**: once inventory and the prepaid insurance are excluded, the business holds only 86 cents of quick assets for every \$1 of short-term debt, so it could not meet those debts from cash and receivables alone — it depends on **selling its inventory** in time. The two ratios together show adequate but not strong liquidity.

Question 2

- a. Current assets = \$40 000 + \$50 000 + \$6 000 = \$96 000; current liabilities = \$12 000 + \$44 000 + \$4 000 = \$60 000. **WCR** = $\$96\,000 \div \$60\,000 = \mathbf{1.60 : 1}$.
- b. Quick assets = \$96 000 – \$50 000 (inventory) – \$6 000 (prepaid insurance) = \$40 000; the denominator is the full current liabilities of \$60 000 (the \$12 000 overdraft **stays in**). **QAR** = $\$40\,000 \div \$60\,000 = \mathbf{0.67 : 1}$.

- c. The bank overdraft is **included** because it is itself a **current liability** — a debt the business must be able to repay within the short term — so it belongs in the denominator alongside Accounts Payable and GST; the Quick Asset Ratio strips out only the assets that cannot quickly become cash (inventory and prepaid expenses), never any of the current liabilities.

Question 3

- a. Current assets = \$10 000 + \$30 000 + \$70 000 + \$10 000 = \$120 000; current liabilities = \$45 000 + \$3 000 = \$48 000. **WCR** = \$120 000 ÷ \$48 000 = **2.50 : 1**.
- b. Quick assets = \$120 000 – \$70 000 – \$10 000 = \$40 000; the denominator is the full current liabilities of \$48 000. **QAR** = \$40 000 ÷ \$48 000 = **0.83 : 1**.
- c. **Inventory** is excluded because it must first be **sold** — and may sell slowly, at a discount, or not at all — before it becomes cash to pay a debt; **prepaid expenses** are excluded because they have already been paid and **cannot be converted back into cash** to pay a creditor. Here the gap between the two ratios is large (2.50 : 1 down to 0.83 : 1): it reveals that most of *Tidewater*'s apparent liquidity is **tied up in \$70 000 of inventory**, so despite a healthy Working Capital Ratio the business could not meet its short-term debts from its quick assets alone.

Question 4

- a. Current assets = \$60 000 + \$40 000 + \$40 000 + \$10 000 = \$150 000; current liabilities = \$28 000 + \$2 000 = \$30 000. **WCR** = \$150 000 ÷ \$30 000 = **5.00 : 1**.
- b. Quick assets = \$150 000 – \$40 000 – \$10 000 = \$100 000; the denominator is the full current liabilities of \$30 000. **QAR** = \$100 000 ÷ \$30 000 = **3.33 : 1**.
- c. Ratios this high are **not necessarily** a sign of good management. On the one hand the business can very comfortably meet its short-term debts. On the other, a WCR of 5.00 : 1 and a QAR of 3.33 : 1 suggest the business may be holding **idle resources** — a large amount of cash (\$60 000) sitting in the bank rather than being invested or used to expand, and \$40 000 of debtors that may be running too long. Those resources have an **opportunity cost**: they could be earning a return elsewhere. Good liquidity management seeks a **balance** — enough to meet debts comfortably, but not so much that the business sacrifices profit by leaving assets idle. Whether these ratios are “too high” can only be judged against a **benchmark**, the business's **trend**, or a **comparable business**; but on their own they warn of possible under-use of resources as much as they reassure about liquidity.

Question 5

- a. **Net Profit Margin** = \$75 000 ÷ \$500 000 × 100 = **15.0%**.
- b. Current assets = \$4 000 + \$14 000 + \$25 000 + \$5 000 = \$48 000; current liabilities = \$37 000 + \$3 000 = \$40 000. **WCR** = \$48 000 ÷ \$40 000 = **1.20 : 1**. Quick assets = \$48 000 – \$25 000 – \$5 000 = \$18 000; no overdraft, so **QAR** = \$18 000 ÷ \$40 000 = **0.45 : 1**.
- c. **Profitability** is the ability to **earn a profit** (measured here by the 15.0% Net Profit Margin, relating profit to sales), while **liquidity** is the ability to **pay short-term debts as they fall due** (measured by the WCR and QAR, comparing current assets with current liabilities). *Parkgate Provisions* is **profitable** — it keeps 15 cents of net profit in every sales dollar — yet its **QAR of 0.45 : 1** shows it holds only 45 cents of quick assets for every \$1 of short-term debt. The reason it can be profitable yet illiquid is that its profit is **tied up in \$25 000 of inventory** rather than sitting in cash: profit does not automatically become cash, so the business can be earning well and still be short of the funds to pay its immediate debts.

Question 6

- a. Current assets = \$6 000 + \$24 000 + \$44 000 + \$6 000 = \$80 000; current liabilities = \$40 000 + \$4 000 + \$6 000 = \$50 000. Correct **WCR** = \$80 000 ÷ \$50 000 = **1.60 : 1**. Quick assets = \$80 000 – \$44 000 – \$6 000 = \$30 000; no overdraft, so correct **QAR** = \$30 000 ÷ \$50 000 = **0.60 : 1**.

- b. Moving the \$6 000 current portion of the loan to the non-current liabilities lowers current liabilities to \$44 000 (current assets are unchanged at \$80 000). **WCR** = $\$80\,000 \div \$44\,000 = 1.82 : 1$; **QAR** = $\$30\,000 \div \$44\,000 = 0.68 : 1$. Both ratios improve, making the business look more able to pay its short-term debts.
- c. The proposal breaches **faithful representation**, which requires the Balance Sheet to be **complete, free from material error and neutral (without bias)**. The \$6 000 is genuinely due **within the next 12 months**, so it is a current liability; classifying it as non-current deliberately understates the current-liabilities total to flatter both liquidity ratios. This is **window-dressing**: it changes only the appearance of the position, not the fact that the \$6 000 must still be paid within the year. Relying on the improved 1.82 : 1 and 0.68 : 1 ratios, the **supplier** may extend credit it would otherwise refuse, taking on a risk it did not agree to bear; and when the true position emerges *Calder & Co* will have **damaged its relationship with the supplier** and its access to future credit. The owner should classify the \$6 000 as the current liability it is and report the true ratios of 1.60 : 1 and 0.60 : 1.

Question 7

Current assets = $\$14\,000 + \$26\,000 + \$40\,000 + \$4\,000 = \$84\,000$; current liabilities = $\$39\,000 + \$3\,000 = \$42\,000$. **WCR** = $\$84\,000 \div \$42\,000 = 2.00 : 1$. Quick assets = $\$84\,000 - \$40\,000 - \$4\,000 = \$40\,000$; no overdraft, so **QAR** = $\$40\,000 \div \$42\,000 = 0.95 : 1$. The **WCR of 2.00 : 1** is on the 2 : 1 guide, so on current assets as a whole the business can meet its short-term debts. The **QAR of 0.95 : 1** is just below the 1 : 1 guide, meaning its quick assets (cash and receivables) are marginally short of its short-term debts, so it relies a little on selling inventory; overall its liquidity is **satisfactory but not strong**.

Question 8

Current assets = $\$30\,000 + \$54\,000 + \$6\,000 = \$90\,000$; current liabilities = $\$15\,000 + \$41\,000 + \$4\,000 = \$60\,000$. **WCR** = $\$90\,000 \div \$60\,000 = 1.50 : 1$ — \$1.50 of current assets to each \$1.00 of current liabilities, so the business can cover its short-term debts from its current assets. Quick assets = $\$90\,000 - \$54\,000$ (inventory) – \$6 000 (prepaid insurance) = \$30 000; the denominator is the full current liabilities of \$60 000 (the \$15 000 overdraft **stays in**). **QAR** = $\$30\,000 \div \$60\,000 = 0.50 : 1$ — only 50 cents of quick assets for every \$1 of short-term debt. The gap between the two ratios shows that much of *Vellore Trading's* liquidity rests on its \$54 000 of inventory; without selling that stock it would struggle to meet its immediate debts, so its underlying liquidity is **weak**.

Question 9

2024: current assets = $\$6\,000 + \$14\,000 + \$32\,000 + \$8\,000 = \$60\,000$; current liabilities = $\$47\,000 + \$3\,000 = \$50\,000$. **WCR** = $\$60\,000 \div \$50\,000 = 1.20 : 1$. Quick assets = $\$60\,000 - \$32\,000 - \$8\,000 = \$20\,000$; **QAR** = $\$20\,000 \div \$50\,000 = 0.40 : 1$.

2025: current assets = $\$20\,000 + \$30\,000 + \$40\,000 + \$6\,000 = \$96\,000$; current liabilities = $\$45\,000 + \$3\,000 = \$48\,000$. **WCR** = $\$96\,000 \div \$48\,000 = 2.00 : 1$. Quick assets = $\$96\,000 - \$40\,000 - \$6\,000 = \$50\,000$; **QAR** = $\$50\,000 \div \$48\,000 = 1.04 : 1$.

The business's **liquidity has improved markedly**. The WCR has risen from 1.20 : 1 to 2.00 : 1 and the QAR from a weak 0.40 : 1 to 1.04 : 1. In 2024 the Quick Asset Ratio showed only 40 cents of quick assets per \$1 of short-term debt — a serious liquidity problem — whereas in 2025 the quick assets slightly **exceed** the short-term debts. The improvement has come chiefly from a stronger cash position (Bank up from \$6 000 to \$20 000) and higher receivables while current liabilities have fallen a little, so the business is now much better placed to meet its debts as they fall due.

Question 10

Dunmore: current assets $\$25\,000 + \$35\,000 + \$30\,000 + \$10\,000 = \$100\,000$, as given; current liabilities \$50 000. **WCR** = $\$100\,000 \div \$50\,000 = 2.00 : 1$. Quick assets = $\$100\,000 - \$30\,000 - \$10\,000 = \$60\,000$; **QAR** = $\$60\,000 \div \$50\,000 = 1.20 : 1$.

Ellary: current assets $\$6\,000 + \$20\,000 + \$66\,000 + \$8\,000 = \$100\,000$, as given; current liabilities \$50 000. **WCR** = $\$100\,000 \div \$50\,000 = 2.00 : 1$. Quick assets = $\$100\,000 - \$66\,000 - \$8\,000 = \$26\,000$; **QAR** = $\$26\,000 \div \$50\,000 = 0.52 : 1$.

The two businesses have an **identical Working Capital Ratio of 2.00 : 1**, so on that measure alone they look equally liquid. The **Quick Asset Ratio** sets them apart: *Dunmore's* 1.20 : 1 comfortably exceeds 1 : 1, while *Ellary's* 0.52 : 1 is only about half of it. *Ellary* has locked \$66 000 of its \$100 000 current assets into inventory, so once inventory and prepayments are removed its quick assets fall well short of its short-term debts. **Dunmore is the more able to meet its short-term debts**, because it holds far more of its current assets as cash and receivables that are already available (or almost so) to pay creditors, whereas *Ellary* depends on selling a large volume of inventory first.

Question 11

- Liquidity** is a business's ability to **meet its short-term debts as they fall due** — to pay the amounts it owes within the next 12 months out of its short-term assets. It is assessed from the **Balance Sheet** because that report classifies and totals the **current assets** and **current liabilities** on which liquidity depends: the ratios simply compare those two figures.
- The Quick Asset Ratio excludes **inventory** because inventory must first be **sold** — possibly slowly, at a discount, or not at all — before it becomes cash available to pay a debt, so it is not immediately available. It excludes **prepaid expenses** because they have already been paid and **cannot be turned back into cash** to pay a creditor; only a future service will be received. Removing both leaves the **quick assets** (mainly cash and receivables) that can meet debts almost immediately.
- A **bank overdraft is not removed** from current liabilities because it is itself a **current liability** — a debt repayable within the short term that the business must be able to cover. Like Accounts Payable and GST, it belongs in the denominator, which is always the **whole** of current liabilities. The Quick Asset Ratio reduces only the **numerator** — removing inventory and prepaid expenses, the current assets that cannot quickly become cash — and never reduces the current liabilities.
- The two ratios can give different impressions because they measure current assets in different ways: the **Working Capital Ratio counts every current asset**, while the **Quick Asset Ratio counts only the assets that can quickly become cash**. A business with a healthy WCR can have a weak QAR if much of its current assets is tied up in inventory and prepayments. **Both are worth calculating** because together they show not just whether current assets cover current liabilities, but whether the business could meet its debts **without having to sell inventory first** — a fuller and more realistic picture of liquidity than either ratio gives alone.

Question 12

- Current assets = Working Capital Ratio $\times$ current liabilities = $2.00 \times \$55\ 000 = \$110\ 000$.
- Quick assets = Quick Asset Ratio $\times$ current liabilities = $0.60 \times \$50\ 000 = \$30\ 000$.
- WCR** = $\$120\ 000 \div \$48\ 000 = 2.50 : 1$. Quick assets = $\$120\ 000 - \$60\ 000$ (inventory) $- \$10\ 000$ (prepaid) = $\$50\ 000$; the denominator is the full current liabilities of $\$48\ 000$ (the $\$8\ 000$ overdraft **stays in**). **QAR** = $\$50\ 000 \div \$48\ 000 = 1.04 : 1$.

Question 13

Current assets = $\$56\ 000 + \$40\ 000 + \$30\ 000 + \$9\ 000 = \$135\ 000$; current liabilities = $\$27\ 000 + \$3\ 000 = \$30\ 000$. **WCR** = $\$135\ 000 \div \$30\ 000 = 4.50 : 1$. Quick assets = $\$135\ 000 - \$30\ 000 - \$9\ 000 = \$96\ 000$; no overdraft, so **QAR** = $\$96\ 000 \div \$30\ 000 = 3.20 : 1$.

These ratios are **very high**, and while they mean *Northgate Stores* can easily meet its short-term debts, they do **not** automatically indicate good management. A WCR of 4.50 : 1 and a QAR of 3.20 : 1 suggest the business may be holding **idle or under-used resources** — most obviously the $\$56\ 000$ of cash sitting in the bank, which is earning little where it is and could be invested, used to expand, or returned to the owner, and the $\$40\ 000$ of receivables, which may indicate debtors are being allowed too long to pay. These assets carry an **opportunity cost**: the return the business forgoes by leaving them idle. Sound liquidity management aims for a **balance** — comfortably able to pay debts, but not tying up more in current assets than the business needs. Whether 4.50 : 1 and 3.20 : 1 are genuinely “too high” can only be decided against a **benchmark**, the business's own **trend**, or a **comparable business**; on their own they signal that the business should ask whether its cash and receivables are working hard enough, not simply that its liquidity is excellent.

Question 14

Net Profit Margin = $\$108\,000 \div \$600\,000 \times 100 = 18.0\%$. Current assets = $\$2\,000 + \$16\,000 + \$33\,000 + \$5\,000 = \$56\,000$; current liabilities = $\$47\,000 + \$3\,000 = \$50\,000$. **WCR** = $\$56\,000 \div \$50\,000 = 1.12 : 1$. Quick assets = $\$56\,000 - \$33\,000 - \$5\,000 = \$18\,000$; no overdraft, so **QAR** = $\$18\,000 \div \$50\,000 = 0.36 : 1$.

Brookmere Trading is clearly **profitable** — an 18.0% Net Profit Margin means it keeps 18 cents of net profit in every sales dollar — yet it is dangerously **illiquid**, with a QAR of only 0.36 : 1 (just 36 cents of quick assets per \$1 of short-term debt). The two indicators measure different things: **profitability** relates profit to sales, while **liquidity** measures whether the business can pay its debts as they fall due. A business can be profitable yet unable to pay its debts because **profit is not cash**: here the profit is tied up in \$33 000 of inventory and \$16 000 of receivables, with only \$2 000 actually in the bank. Until that inventory is sold and those debtors pay, the business simply does not have the cash to settle its \$50 000 of current liabilities — which is why it is struggling to pay suppliers despite trading profitably. It needs to convert inventory and receivables to cash faster, or arrange additional finance.

Question 15

Liquidity is the ability of a business to **meet its short-term debts as they fall due**, measured by comparing current assets with current liabilities (the Working Capital and Quick Asset Ratios). **Profitability** is the ability of a business to **earn a profit**, measured by relating profit to a base such as sales or the owner's investment (for example the Net Profit Margin or Return on Owner's Investment). The distinction is that liquidity is about **cash and the ability to pay**, whereas profitability is about **earnings**; the two do not move together, because **profit is not the same as cash**.

A business needs to be **both**. A business that is **profitable but not liquid** — for example one earning a strong Net Profit Margin but with almost all its assets tied up in inventory and debtors and little cash — can be unable to pay its suppliers and employees on time, and may fail despite trading profitably. A business that is **liquid but not profitable** — for example one holding plenty of cash but making losses year after year — will steadily drain that cash and eventually run out. Only a business that earns a profit **and** keeps enough liquid assets to meet its debts as they fall due can survive and prosper in the long run, which is why the liquidity indicators are always read **alongside** the profitability indicators.

Question 16

Current assets = $\$44\,000 + \$56\,000 + \$10\,000 = \$110\,000$; current liabilities = $\$5\,000 + \$46\,000 + \$4\,000 = \$55\,000$. **WCR** = $\$110\,000 \div \$55\,000 = 2.00 : 1$. Quick assets = $\$110\,000 - \$56\,000$ (inventory) $- \$10\,000$ (prepaid insurance) = $\$44\,000$; the denominator is the full current liabilities of \$55 000 (the \$5 000 overdraft **stays in**). **QAR** = $\$44\,000 \div \$55\,000 = 0.80 : 1$.

The **WCR of 2.00 : 1** is on the 2 : 1 guide, so on its current assets as a whole *Whitfield Wholesalers* can meet its short-term debts. The **QAR of 0.80 : 1**, however, is below 1 : 1: once the \$56 000 of inventory and \$10 000 of prepaid insurance are removed, quick assets fall short of the debts that must be met in the short term, so the business relies on **selling its inventory** to pay its way. **One action to improve liquidity** would be to **sell more of the slow-moving inventory for cash** (or reduce the amount of inventory held), converting it into quick assets; alternatively the business could **speed up collection from its debtors**, **arrange a longer-term loan** to replace the overdraft and short-term payables, or the owner could **contribute additional capital** — each of which raises quick assets relative to short-term debts.

Question 17

Correct current assets = $\$8\,000 + \$22\,000 + \$54\,000 + \$6\,000 = \$90\,000$; correct current liabilities = $\$44\,000 + \$8\,000 + \$8\,000 = \$60\,000$. Correct **WCR** = $\$90\,000 \div \$60\,000 = 1.50 : 1$. Quick assets = $\$90\,000 - \$54\,000 - \$6\,000 = \$30\,000$; no overdraft, so correct **QAR** = $\$30\,000 \div \$60\,000 = 0.50 : 1$.

Proposal (i) alone — moving the \$8 000 current portion of the loan to the non-current liabilities — lowers current liabilities to \$52 000. **WCR** = $\$90\,000 \div \$52\,000 = 1.73 : 1$; **QAR** = $\$30\,000 \div \$52\,000 = 0.58 : 1$.

Both proposals breach the owner's ethical duty to present the Balance Sheet as a **faithful representation** — **complete, free from material error and neutral (without bias)**. Proposal (i) **misclassifies a current liability as non-current**: the \$8 000 is genuinely due within the next 12 months, so reporting it as non-current understates the current liabilities purely to lift the ratios (from 1.50 : 1 to 1.73 : 1 and from 0.50 : 1 to 0.58 : 1). Proposal (ii) is worse: recording **\$10 000 of accounts receivable for goods not yet delivered** records revenue and an asset that **do not yet**

exist, overstating both current and quick assets and inflating the ratios further. Both are **window-dressing** — they change only the appearance of the liquidity position, not the fact that *Delmore*'s debts still fall due and the cash to pay them must still be found. Relying on the flattered ratios, the **supplier** may extend a credit limit it would otherwise refuse, exposing itself to a greater risk of not being paid; and when the true position emerges *Delmore* will have **damaged its relationship with the supplier** and its own reputation and access to credit. The owner should classify the \$8 000 as a current liability, record only receivables for goods actually delivered, and report the true ratios of 1.50 : 1 and 0.50 : 1 — and, if liquidity is genuinely weak, address it honestly rather than disguise it.

Question 18

Ashford: current assets = \$18 000 + \$30 000 + \$34 000 + \$8 000 = \$90 000; current liabilities = \$42 000 + \$3 000 = \$45 000. **WCR** = \$90 000 ÷ \$45 000 = **2.00 : 1**. Quick assets = \$90 000 – \$34 000 – \$8 000 = \$48 000; no overdraft, so **QAR** = \$48 000 ÷ \$45 000 = **1.07 : 1**.

Bexley: current assets = \$4 000 + \$20 000 + \$64 000 + \$8 000 = \$96 000; current liabilities = \$45 000 + \$3 000 = \$48 000. **WCR** = \$96 000 ÷ \$48 000 = **2.00 : 1**. Quick assets = \$96 000 – \$64 000 – \$8 000 = \$24 000; no overdraft, so **QAR** = \$24 000 ÷ \$48 000 = **0.50 : 1**.

Both businesses have the **same Working Capital Ratio of 2.00 : 1**, so judged on that alone they appear equally able to meet their short-term debts. But the **Quick Asset Ratio** shows **Bexley faces the far greater risk** of being unable to meet its short-term debts. *Ashford*'s QAR of 1.07 : 1 slightly exceeds 1 : 1, so its quick assets (cash \$18 000 and receivables \$30 000) already cover its short-term debts without selling any inventory. *Bexley*'s QAR of only 0.50 : 1 means it holds just 50 cents of quick assets for every \$1 of short-term debt, because \$64 000 of its \$96 000 current assets is locked in inventory and it has almost no cash (\$4 000). *Bexley* therefore could not pay its immediate debts unless it **sells a large volume of inventory quickly** — which may not be possible if trade is slow — whereas *Ashford* can pay from assets already available. The identical Working Capital Ratios mask this difference entirely, which is why the Quick Asset Ratio is decisive here: **Bexley is the more exposed to a liquidity crisis**.

Chapter 18 Evaluating performance — 18F Cash Flow Cover, the speed of liquidity and non-financial information

Theory

A business can be **profitable** and still fail if it runs short of **cash**. The profitability indicators (18A–18D) measure how well a business turns sales into profit; the **liquidity** indicators measure its ability to pay its **short-term debts as they fall due**. The Working Capital Ratio and Quick Asset Ratio (18E) judge liquidity from the **Balance Sheet** — the *stock* of current assets available at one point in time. This section completes the liquidity picture in two further ways: the **Cash Flow Cover** judges liquidity from the **Cash Flow Statement** — the *flow* of cash the business actually generates — and the **turnover** indicators measure the **speed** with which a business converts its inventory and its debtors into cash, and pays its own creditors. It closes with the **non-financial information** that dollar figures alone cannot capture.

The Cash Flow Cover. The **Cash Flow Cover** measures **how many times** a business's operating cash flow could **cover (pay off) its current liabilities** — the debts due within the next twelve months. It relates the cash the business generates from its everyday trading to the short-term debts that cash must service:

$$\text{Cash Flow Cover} = \frac{\text{Net cash flows from Operating activities}}{\text{Average current liabilities}}$$

where

$$\text{Average current liabilities} = \frac{\text{Opening current liabilities} + \text{Closing current liabilities}}{2}$$

Three points about the formula matter:

- **Net cash flows from Operating activities** — not profit, and not the total change in cash — is the numerator, because it is the **cash the core business actually generated** and therefore the cash genuinely available to meet current debts. Investing and financing flows are excluded: a business should not have to sell assets or borrow to meet its everyday obligations.
- **Average current liabilities** is used because the numerator is a **flow** (operating cash measured across the whole period) while current liabilities are a **balance** (measured at a point in time). Averaging the opening and closing balances gives a figure representative of the short-term debt carried *throughout* the period, so the comparison is like with like.
- The result is expressed as a number of **times** (times per period), conventionally rounded to **one decimal place**. A Cash Flow Cover of **2.0 times** means the operating cash generated in the period was **twice** the average level of current liabilities.

A **higher** Cash Flow Cover is a **stronger** position: the business generates operating cash well in excess of its short-term debts and could pay them off several times over from one period's trading. A **lower** cover is weaker, and a cover of **less than 1.0** is a serious concern — one period's operating cash would not even cover the average current liabilities **once**, so the business may have to fall back on its cash reserves, new borrowing or asset sales to meet its obligations.

The speed of liquidity. The ratios in 18E ask whether a business *has* enough current assets to cover its current liabilities; the **turnover** indicators ask how **fast** those current assets and liabilities are actually **moving**. Liquidity is not just about how much a business holds — it is about how quickly inventory becomes a sale, a sale becomes cash, and cash is used to pay suppliers. Three indicators measure this speed, and each is expressed as a **number of days**:

$$\text{Inventory Turnover (days)} = \frac{\text{Average inventory}}{\text{Cost of Goods Sold}} \times 365$$

$$\text{Accounts Receivable Turnover (days)} = \frac{\text{Average accounts receivable}}{\text{Net credit sales} + \text{GST}} \times 365$$

$$\text{Accounts Payable Turnover (days)} = \frac{\text{Average accounts payable}}{\text{Net credit purchases} + \text{GST}} \times 365$$

- **Inventory Turnover** measures how many days, on average, inventory sits on hand before it is sold. Both figures are measured **at cost** (average inventory against Cost of Goods Sold), so the mark-up in the selling price does not distort the comparison. A **lower** number of days is **favourable** — inventory is selling **quickly**, cash returns sooner and there is less risk of goods becoming obsolete.
- **Accounts Receivable Turnover** measures how many days, on average, it takes to **collect cash from credit customers**. A **lower** number of days is **favourable** — the business is collecting quickly, so less cash is tied up in debtors and there is less risk of bad debts.
- **Accounts Payable Turnover** measures how many days, on average, the business takes to **pay its credit suppliers**. This indicator is read with more care (below): paying slowly conserves cash, but paying *too* slowly has costs.

Why “plus GST”? When a business makes a **credit sale**, the amount charged to the customer — and recorded in **Accounts Receivable** — includes the **10% GST**. A \$100 credit sale creates a \$110 receivable. The Accounts Receivable balance in the top of the fraction is therefore **GST-inclusive**, so the sales figure in the bottom must be grossed up by GST as well, or the comparison would not be like with like. The same applies to **Accounts Payable** and net credit purchases. In each case the denominator is the net credit figure **plus 10% GST** (that is, the ex-GST figure × 1.1).

Inventory Turnover needs no such adjustment. Both of its figures are recorded **GST-exclusive**: inventory is recorded at its GST-exclusive cost price, and Cost of Goods Sold is that same cost transferred to expense. Top and bottom already match, so **no GST is added** to Cost of Goods Sold — the “plus GST” step belongs only to the receivables and payables indicators.

Reading the speed indicators together. Individually each indicator tells part of the liquidity story; read **together** they describe the **cash cycle** of the business. Inventory is bought (usually on credit), sold after the **Inventory Turnover** days, and the resulting debt collected after the **Accounts Receivable Turnover** days. So a business ties up cash for roughly:

Inventory Turnover + Accounts Receivable Turnover = days to turn inventory into cash

Meanwhile the business pays its own suppliers after the **Accounts Payable Turnover** days. Comparing the two tells the owner whether trade suppliers are effectively **funding** the trading cycle or whether the business must fund a **cash gap** itself:

- If **Accounts Payable Turnover is longer than** Inventory Turnover + Accounts Receivable Turnover, the business collects from its customers **before** it has to pay its suppliers — a comfortable liquidity position, with suppliers providing interest-free short-term finance.
- If **Inventory Turnover + Accounts Receivable Turnover is longer than** Accounts Payable Turnover, there is a **cash gap**: the business must pay suppliers before it has collected from customers, and must fund the difference from its own cash reserves or borrowings.

Speeding up Inventory Turnover and Accounts Receivable Turnover (selling and collecting faster) shortens the cycle and strengthens liquidity. **Accounts Payable Turnover is different**: lengthening it (paying suppliers **later**) keeps cash in the business longer and also helps liquidity — but only up to a point. Paying too slowly can mean **losing settlement discounts, damaging relationships** with suppliers, being **refused future credit** or being **charged interest**, so the business must balance the cash benefit of paying later against these costs and stay within the agreed credit terms.

Comparing the indicators. A single figure means little on its own. Every indicator becomes useful only when it is **compared** — against the **previous period** (is liquidity strengthening or weakening?), against the business’s own **budget**, and against **similar businesses** or an industry benchmark. Comparisons must be made between **like** businesses: a supermarket selling fast-moving groceries will turn over inventory and collect cash in days, while a jeweller selling high-value goods may take months, and neither manages “better” simply because its number is lower. Comparing like with like respects the qualitative characteristic of **comparability**.

Non-financial information. Every indicator above is a **financial** measure, expressed in dollars, times or days. But sound decision-making also draws on **non-financial information** — information **not expressed in dollars** — because the financial indicators tell the owner *what* happened but not always *why*, and cannot capture everything that matters to the business’s future. Examples relevant to performance include:

- the **number of customers** and the level of **customer satisfaction and complaints**;
- the **number of units sold, returned, damaged or spoiled**, and the number of **stockouts**;
- the **average age of debtors** and the number of **customer accounts overdue**;
- **supplier reliability and delivery times**, and the number of **disputes** with suppliers;
- the business's **market share**, the **reputation and skill of its staff**, and the **environmental and social impact** of the way it trades.

Non-financial information helps **explain** why an indicator moved (a rise in customer complaints may sit behind a slowing Inventory Turnover), supports decisions that the dollar figures alone cannot (which slow line to discontinue, which overdue customer to chase), and helps the owner **predict** future performance. The strongest analysis uses the financial indicators **together with** relevant non-financial information — a business whose Cash Flow Cover and turnover figures all look healthy may still be at risk if its largest customer is in financial trouble or its market share is falling.

Ethical considerations. The indicators can all be **manipulated** to look better than the business's true position, and doing so is an ethical failure. A manager under pressure to improve the reported figures might **delay paying suppliers** well beyond the agreed terms, holding over balance day cash that should already have left the business and so inflating **net cash flows from Operating activities**; **pressure or mislead credit customers** into paying early, so that closing accounts receivable falls and **Accounts Receivable Turnover** looks faster than the business's real collection performance; or **deliberately run inventory down** just before balance day, delaying restocking so that closing — and therefore average — inventory is artificially low and **Inventory Turnover** looks faster than the business is really selling. Each breaches **faithful representation** — the reports must be **complete, free from material error and neutral (without bias)** — and each shifts harm onto others: **small suppliers** who are paid late may face their own cash-flow crisis, **customers** are pressured, misled or left facing stockouts, and any **lender or prospective buyer** relying on the indicators is deceived about the business's real liquidity. Stretching payments to suppliers is a legitimate cash strategy **only within the agreed credit terms and applied honestly**; beyond that it becomes an unfair transfer of the business's liquidity problem onto those least able to bear it. Ethical evaluation reports the indicators truthfully and improves them through genuine management — selling and collecting faster, and generating real operating cash — not by disguising the figures or exploiting suppliers and customers.

Worked examples (scaffolded)

Example 1 — calculating and interpreting Cash Flow Cover

Harborline Freight & Logistics generated **\$120 000** in net cash flows from operating activities for the year ended 30 June 2025. Its current liabilities were **\$46 000** at the start of the year and **\$54 000** at the end. Calculate the Cash Flow Cover and interpret it.

Working	Comment
Average current liabilities = $(\$46\,000 + \$54\,000) \div 2$ = \$50 000 .	Average the opening and closing balances — a point-in-time balance is being compared with a period-long flow.
Cash Flow Cover = $\$120\,000 \div \$50\,000 = \mathbf{2.4\,times}$.	Divide net operating cash by average current liabilities; express the result in <i>times</i> , to one decimal place.
<i>Interpret:</i> the operating cash generated was 2.4 times the average current liabilities.	The business could pay off its short-term debts about two and a half times over from one year's operating cash — a comfortable, liquid position.

The calculation can be set out as a **Cash Flow Cover schedule**:

Cash Flow Cover — Harborline Freight & Logistics

	\$
Net cash flows from Operating activities	120 000
Average current liabilities $(46\,000 + 54\,000) \div 2$	50 000
Cash Flow Cover = $120\,000 \div 50\,000$	2.4 times

Example 2 — calculating the three speed-of-liquidity indicators

Tandara Timber & Hardware reports the following for the year ended 30 June 2025: Cost of Goods Sold \$219 000; net credit sales \$182 500 (plus GST); net credit purchases \$109 500 (plus GST). The balances to be averaged are inventory (opening \$16 000, closing \$20 000), accounts receivable (opening \$10 000, closing \$12 000) and accounts payable (opening \$12 000, closing \$14 400). Calculate the three turnover indicators and read them together.

Working	Comment
Inventory Turnover: average inventory = $(\$16\,000 + \$20\,000) \div 2 = \$18\,000$; ITO = $(\$18\,000 \div \$219\,000) \times 365 = \mathbf{30\ days}$.	Both figures are GST-exclusive, so Cost of Goods Sold is used as it stands. On average the business sells its inventory 30 days after acquiring it.
Accounts Receivable Turnover: average receivables = $(\$10\,000 + \$12\,000) \div 2 = \$11\,000$; net credit sales + GST = $\$182\,500 \times 1.1 = \$200\,750$; ARTO = $(\$11\,000 \div \$200\,750) \times 365 = \mathbf{20\ days}$.	GST is added because the receivables balance already includes it. On average customers pay 20 days after the credit sale.
Accounts Payable Turnover: average payables = $(\$12\,000 + \$14\,400) \div 2 = \$13\,200$; net credit purchases + GST = $\$109\,500 \times 1.1 = \$120\,450$; APTO = $(\$13\,200 \div \$120\,450) \times 365 = \mathbf{40\ days}$.	The business takes, on average, 40 days to pay its suppliers.

Set out as a **speed-of-liquidity schedule**:

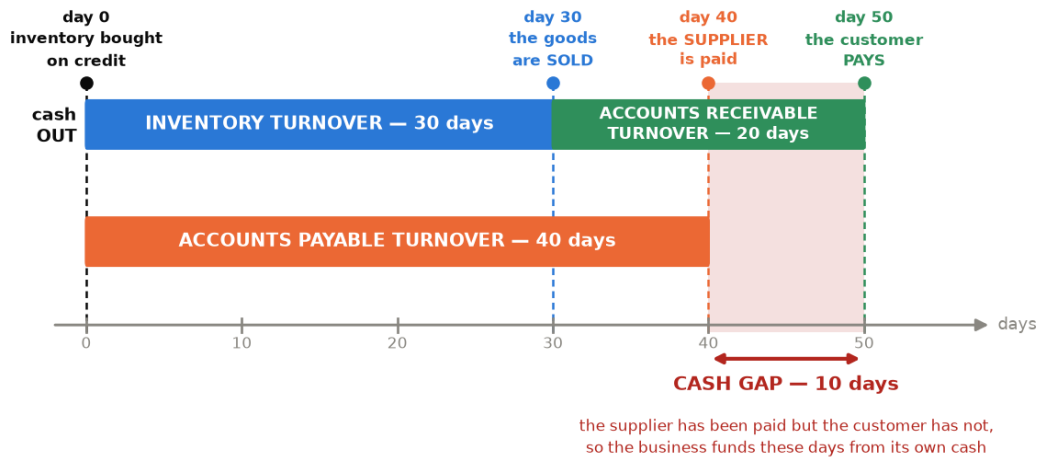
Indicator — Tandara Timber & Hardware				
	Average balance \$	Denominator	Denominator \$	Days
Inventory Turnover ($\times 365$)	18 000	Cost of Goods Sold (no GST)	219 000	30
Accounts Receivable Turnover ($\times 365$)	11 000	Net credit sales + GST ($182\,500 \times 1.1$)	200 750	20
Accounts Payable Turnover ($\times 365$)	13 200	Net credit purchases + GST ($109\,500 \times 1.1$)	120 450	40

Reading them together: it takes **30 + 20 = 50 days** to turn inventory into cash (sell it, then collect from the customer), but the business pays its suppliers in only **40 days**. There is a **10-day cash gap**: for about 10 days the business has paid its suppliers but has not yet collected from its customers, and must fund that gap from its own cash. Collecting a little faster, or negotiating slightly longer supplier terms, would close the gap.

Drawn on a day scale, the comparison stops being arithmetic and becomes a matter of which bar ends first:

Tandara Timber & Hardware — the cash cycle

Year ended 30 June 2025, drawn to a day scale: $30 + 20 = 50$ days to turn inventory into cash, against 40 days to pay suppliers



collecting a little faster, or negotiating slightly longer supplier terms, would close the gap.
Had the payables bar been the LONGER one, suppliers would be funding the cycle instead.

Tandara Timber & Hardware — the cash cycle, year ended 30 June 2025

The upper bar runs from buying the inventory to collecting the cash: 30 days on the shelf, then 20 days waiting for the customer, reaching day 50. The lower bar runs to the day the supplier is paid — day 40. Because the upper bar ends **after** the lower one, the business is out of pocket for the shaded 10 days. Had the payables bar been the longer of the two, the shading would fall the other way and the suppliers would be funding the trading cycle interest-free, which is the comfortable position described above.

Worked examples (unscaffolded)

Example 3 — interpreting a two-year change in liquidity

Selwood Electrical reports the indicators below for two years. Describe the change in each and explain what has happened to the business's liquidity overall.

Indicator — Selwood

Electrical	2024	2025
Cash Flow Cover (times)	1.5	2.0
Inventory Turnover (days)	40	35
Accounts Receivable Turnover (days)	35	30
Accounts Payable Turnover (days)	30	30

Every indicator moved in the business's favour or held steady. **Cash Flow Cover rose from 1.5 to 2.0 times**: the operating cash generated grew from one-and-a-half times average current liabilities to twice them, so the business now covers its short-term debts more comfortably from its own trading. **Inventory Turnover fell from 40 to 35 days** and **Accounts Receivable Turnover fell from 35 to 30 days** — both **favourable**, because inventory is selling faster and customers are paying sooner. Together these shorten the cash cycle: the time to turn inventory into cash fell from $40 + 35 = 75$ days to $35 + 30 = 65$ days. Because **Accounts Payable Turnover held steady at 30 days**, the business still pays suppliers on the same terms, so the **cash gap it must self-fund shrank from 45 days to 35 days**. Selling faster, collecting faster and generating more operating cash have all strengthened liquidity.

∴ *Selwood Electrical's* liquidity clearly improved in 2025 — stronger operating cash and a shorter cash cycle mean it is better placed to meet its debts as they fall due.

Example 4 — using non-financial information and ethics in an evaluation

Meridian Office Supplies reports a **Cash Flow Cover of 3.0 times** (net operating cash \$96 000 ÷ average current liabilities \$32 000) and an **Accounts Receivable Turnover of 35 days** (average receivables \$15 400 ÷ net credit sales-plus-GST \$160 600 × 365) for the year ended 30 June 2025. The financial figures look healthy, but the owner also notes that its **largest customer**, owing a third of all receivables, has recently been reported to be in **financial difficulty**, and that **customer complaints about late deliveries** have risen sharply. Evaluate the business's liquidity, and identify one ethical issue the owner should avoid.

The financial indicators are strong: a Cash Flow Cover of 3.0 means one year's operating cash is three times the average current liabilities, and a 35-day collection period is reasonable. On the financial evidence alone the business looks comfortably liquid. But the **non-financial information** qualifies this picture. The Accounts Receivable Turnover is an **average**: if one large customer (a third of receivables) is in financial trouble, that customer may pay very late or not at all, turning part of the receivables into a **bad debt** and worsening both collection and cash flow well beyond what the 35-day average suggests. Rising **complaints about late deliveries** warn that sales — and therefore future operating cash and Cash Flow Cover — could fall if customers take their business elsewhere. Read together, the non-financial signals show a liquidity position that is less secure than the indicators alone imply, and point to concrete action: follow up the at-risk customer, review the allowance for doubtful debts, and fix the delivery problem.

The **ethical issue** to avoid is dressing the figures up rather than fixing the problems. The owner must **not** conceal the doubtful customer by leaving an overstated receivable on the books to keep Accounts Receivable Turnover looking healthy, nor **stretch payments to suppliers** beyond the agreed terms to lift Cash Flow Cover. Both breach **faithful representation** and push the business's difficulty onto suppliers and onto any lender relying on the reports.

∴ *Meridian's* headline indicators are strong, but the non-financial information reveals real risks; an honest evaluation acts on them rather than disguising them.

Practice questions — scaffolded

Question 1

Rosslyn Traders generated net cash flows from operating activities of \$84 000 for the year ended 30 June 2025. Its current liabilities were \$21 000 at the start of the year and \$27 000 at the end.

- Calculate the average current liabilities.
- Calculate the Cash Flow Cover.
- Interpret the result in one sentence.

Question 2

Bellfield Sports reports Cost of Goods Sold of \$146 000 for the year ended 30 June 2025. Its inventory was \$9 000 at the start of the year and \$7 000 at the end.

- Calculate the average inventory.
- Calculate the Inventory Turnover in days.
- Interpret the result, stating roughly how often the business sells its inventory.

Question 3

Camden Trading made net credit sales of \$146 000 (plus GST) for the year ended 30 June 2025. Its accounts receivable were \$12 400 at the start of the year and \$14 000 at the end.

- Calculate the net credit sales including GST (the denominator of the indicator).
- Calculate the average accounts receivable.
- Calculate the Accounts Receivable Turnover in days.

Question 4

Denton Supplies made net credit purchases of \$109 500 (plus GST) for the year ended 30 June 2025. Its accounts payable were \$9 000 at the start of the year and \$10 800 at the end.

- Calculate the net credit purchases including GST.
- Calculate the average accounts payable.
- Calculate the Accounts Payable Turnover in days.

Question 5

Fenwick Hardware reports the following for the year ended 30 June 2025: Cost of Goods Sold \$109 500; net credit sales \$146 000 (plus GST); net credit purchases \$73 000 (plus GST). Balances: inventory opening \$9 000, closing \$11 400; accounts receivable opening \$9 600, closing \$11 520; accounts payable opening \$8 400, closing \$10 080.

- Calculate the Inventory Turnover in days.
- Calculate the Accounts Receivable Turnover and the Accounts Payable Turnover in days.
- State how many days it takes the business to turn inventory into cash, compare this with how long it takes to pay suppliers, and state whether there is a cash gap.

Question 6

Glenmore Trading reports net cash flows from operating activities of \$30 000 in 2024 and \$57 000 in 2025. Its current liabilities were \$22 000 (1 July 2023), \$28 000 (30 June 2024) and \$32 000 (30 June 2025).

- Calculate the Cash Flow Cover for each year.
- State the direction and size of the change, and whether it is favourable.
- Identify one item of non-financial information that could help explain the change in Cash Flow Cover.

Practice questions — unscaffolded

Question 7

Harwood Traders generated net cash flows from operating activities of \$126 000 for the year ended 30 June 2025, with current liabilities of \$56 000 at the start and \$64 000 at the end. Calculate the Cash Flow Cover and interpret it.

Question 8

Inglewood Furniture reports Cost of Goods Sold of \$146 000, opening inventory of \$22 000 and closing inventory of \$18 000 for the year ended 30 June 2025. Calculate the average inventory and the Inventory Turnover in days.

Question 9

Jarrah Trading made net credit sales of \$146 000 (plus GST) for the year ended 30 June 2025, with accounts receivable of \$16 000 at the start and \$19 200 at the end. Calculate the Accounts Receivable Turnover in days, and state one implication of this collection period for the business's liquidity.

Question 10

Kalinda Supplies made net credit purchases of \$73 000 (plus GST) for the year ended 30 June 2025, with accounts payable of \$7 000 at the start and \$8 400 at the end. Calculate the Accounts Payable Turnover in days.

Question 11

Lachlan Traders reports for the year ended 30 June 2025: Cost of Goods Sold \$146 000; net credit sales \$146 000 (plus GST); net credit purchases \$109 500 (plus GST). Balances: inventory opening \$8 800, closing \$12 000; accounts receivable opening \$11 200, closing \$13 440; accounts payable opening \$10 800, closing \$12 960. Calculate the three turnover indicators, then explain what they reveal, read together, about the business's liquidity.

Question 12

Marlow Traders reports a Cash Flow Cover of 2.5 times on net cash flows from operating activities of \$100 000 for the year ended 30 June 2025. Its current liabilities were \$38 000 at the start of the year. Calculate the average current liabilities, and hence the closing current liabilities.

Question 13

Norwood Trading reports an Inventory Turnover of 40 days on Cost of Goods Sold of \$146 000 for the year ended 30 June 2025. Its opening inventory was \$14 000. Calculate the average inventory the business must have held, and hence its closing inventory.

Question 14

Oakbank Traders reports the indicators below for two years. Evaluate the change in the business's liquidity overall, and state one item of non-financial information that would help the owner interpret the change.

Indicator — Oakbank
Traders

	2024	2025
Cash Flow Cover (times)	1.4	1.8
Inventory Turnover (days)	45	40
Accounts Receivable Turnover (days)	40	34
Accounts Payable Turnover (days)	25	30

Question 15

For the year ended 30 June 2025, *Perry Grocers* (a supermarket) reports an Inventory Turnover of 10 days and an Accounts Receivable Turnover of 10 days, while *Quinton Jewellers* (a jewellery retailer) reports an Inventory Turnover of 100 days and an Accounts Receivable Turnover of 50 days. Discuss whether it is fair to conclude from these figures that *Perry Grocers* manages its liquidity better than *Quinton Jewellers*.

Question 16

Explain the role of **non-financial information** in evaluating a business's liquidity and performance. Refer to at least two examples of non-financial information and explain how each could be used **alongside** the financial indicators in this chapter.

Question 17

The owner of *Redgate Traders* boasts that the business has “improved its liquidity” by deliberately lengthening its Accounts Payable Turnover from 30 days to 55 days. Discuss this claim, referring to both the benefit and the costs of paying suppliers more slowly.

Question 18

Near balance day, the manager of *Stanton Wholesalers*, under pressure to report strong liquidity, instructs staff to **stop paying suppliers** for three weeks (even those offering settlement discounts) so that the year-end Cash Flow Cover looks higher, and to **telephone credit customers with implied threats** to force early payment so that Accounts Receivable Turnover looks faster. Discuss the effect of these actions on the reported indicators and on the business's stakeholders, with reference to a relevant ethical consideration.

Answers

1.
 - a. \$24 000 b. **3.5 times** c. Operating cash was 3.5 times average current liabilities.
2.
 - a. \$8 000 b. **20 days** c. Sells its inventory on average every 20 days (about 18 times a year).
3.
 - a. \$160 600 b. \$13 200 c. **30 days**
4.
 - a. \$120 450 b. \$9 900 c. **30 days**
5.
 - a. **34 days** b. ARTO **24 days**; APTO **42 days** c. $34 + 24 = 58$ days to turn inventory into cash vs 42 days to pay suppliers → a **16-day cash gap**.
6.
 - a. 2024 **1.2 times**; 2025 **1.9 times**. b. Rose by 0.7 ($1.2 \rightarrow 1.9$) — favourable. c. See solutions (e.g. number of customers, complaints, market share).
7. **2.1 times** — operating cash was about twice average current liabilities.
8. Average inventory \$20 000; Inventory Turnover **50 days**.
9. **40 days**. See solutions.
10. **35 days**.
11. ITO **26 days**; ARTO **28 days**; APTO **36 days**. See solutions (54-day cycle vs 36-day payment → 18-day cash gap).
12. Average current liabilities **\$40 000**; closing current liabilities **\$42 000**.
13. Average inventory **\$16 000**; closing inventory **\$18 000**.
14. Liquidity improved overall — see solutions.
15. Not a fair conclusion — comparability. See solutions.
16. Discuss — see solutions.
17. Discuss — see solutions.
18. Discuss — see solutions.

Fully-worked solutions

Question 1

- a. Average current liabilities = $(\$21\,000 + \$27\,000) \div 2 = \mathbf{\$24\,000}$.
- b. Cash Flow Cover = $\$84\,000 \div \$24\,000 = \mathbf{3.5\,times}$.
- c. The operating cash generated in the year was **three and a half times** the average level of current liabilities, so the business could pay off its short-term debts three times over from one year's trading and still have cash to spare — a strong, liquid position.

Question 2

- a. Average inventory = $(\$9\,000 + \$7\,000) \div 2 = \mathbf{\$8\,000}$.
- b. Inventory Turnover = $(\$8\,000 \div \$146\,000) \times 365 = \mathbf{20\,days}$.
- c. On average it takes about 20 days to sell the inventory on hand, so the business turns over (sells and replaces) its entire inventory roughly every 20 days — about 18 times a year.

Question 3

- a. Net credit sales + GST = $\$146\,000 \times 1.1 = \mathbf{\$160\,600}$ (the \$146 000 sales plus \$14 600 GST). The GST is added because the accounts receivable balance already includes it.
- b. Average accounts receivable = $(\$12\,400 + \$14\,000) \div 2 = \mathbf{\$13\,200}$.

- c. Accounts Receivable Turnover = $(\$13\,200 \div \$160\,600) \times 365 = \mathbf{30\ days}$ — on average customers take 30 days to pay.

Question 4

- a. Net credit purchases + GST = $\$109\,500 \times 1.1 = \mathbf{\$120\,450}$ (the \$109 500 purchases plus \$10 950 GST).
- b. Average accounts payable = $(\$9\,000 + \$10\,800) \div 2 = \mathbf{\$9\,900}$.
- c. Accounts Payable Turnover = $(\$9\,900 \div \$120\,450) \times 365 = \mathbf{30\ days}$ — on average the business takes 30 days to pay its suppliers.

Question 5

- a. Average inventory = $(\$9\,000 + \$11\,400) \div 2 = \$10\,200$; Inventory Turnover = $(\$10\,200 \div \$109\,500) \times 365 = \mathbf{34\ days}$. No GST is added: inventory and Cost of Goods Sold are both GST-exclusive.
- b. Average receivables = $(\$9\,600 + \$11\,520) \div 2 = \$10\,560$; net credit sales + GST = $\$146\,000 \times 1.1 = \$160\,600$; Accounts Receivable Turnover = $(\$10\,560 \div \$160\,600) \times 365 = \mathbf{24\ days}$. Average payables = $(\$8\,400 + \$10\,080) \div 2 = \$9\,240$; net credit purchases + GST = $\$73\,000 \times 1.1 = \$80\,300$; Accounts Payable Turnover = $(\$9\,240 \div \$80\,300) \times 365 = \mathbf{42\ days}$.
- c. It takes $34 + 24 = \mathbf{58\ days}$ to turn inventory into cash (sell it, then collect from the customer), but the business pays its suppliers in only **42 days**. Because it pays 16 days *before* it collects, there is a **16-day cash gap** that the business must fund from its own cash.

Question 6

- a. 2024: average current liabilities = $(\$22\,000 + \$28\,000) \div 2 = \$25\,000$; Cash Flow Cover = $\$30\,000 \div \$25\,000 = \mathbf{1.2\ times}$. 2025: average current liabilities = $(\$28\,000 + \$32\,000) \div 2 = \$30\,000$; Cash Flow Cover = $\$37\,000 \div \$30\,000 = \mathbf{1.9\ times}$.
- b. Cash Flow Cover **rose by 0.7 times** ($1.2 \rightarrow 1.9$) — a **favourable** movement, because the business now generates more operating cash relative to its short-term debts, even though those debts also grew.
- c. Any one of: the number of customers or level of repeat business; customer satisfaction and complaints; market share; the reliability of major customers; the state of the economy or demand for the product — each could help explain whether the stronger operating cash is likely to continue.

Question 7

Average current liabilities = $(\$56\,000 + \$64\,000) \div 2 = \$60\,000$; Cash Flow Cover = $\$126\,000 \div \$60\,000 = \mathbf{2.1\ times}$. The operating cash generated was a little over twice the average current liabilities, so the business comfortably covers its short-term debts from its own trading — a sound liquidity position.

Question 8

Average inventory = $(\$22\,000 + \$18\,000) \div 2 = \mathbf{\$20\,000}$. Inventory Turnover = $(\$20\,000 \div \$146\,000) \times 365 = \mathbf{50\ days}$ — on average the business takes 50 days to sell its inventory.

Question 9

Net credit sales + GST = $\$146\,000 \times 1.1 = \$160\,600$; average accounts receivable = $(\$16\,000 + \$19\,200) \div 2 = \$17\,600$; Accounts Receivable Turnover = $(\$17\,600 \div \$160\,600) \times 365 = \mathbf{40\ days}$. Taking 40 days to collect ties up cash in debtors for over a month and raises the risk of bad debts; if the business's credit terms are shorter than this (say 30 days), customers are paying late on average and the business should tighten its collection to improve liquidity.

Question 10

Net credit purchases + GST = $\$73\,000 \times 1.1 = \$80\,300$; average accounts payable = $(\$7\,000 + \$8\,400) \div 2 = \$7\,700$; Accounts Payable Turnover = $(\$7\,700 \div \$80\,300) \times 365 = \mathbf{35\ days}$ — on average the business pays its suppliers 35 days after the purchase.

Question 11

Inventory Turnover: average inventory = $(\$8\,800 + \$12\,000) \div 2 = \$10\,400$; ITO = $(\$10\,400 \div \$146\,000) \times 365 = \mathbf{26 \text{ days}}$ (no GST is added — both figures are GST-exclusive). Accounts Receivable Turnover: average receivables = $(\$11\,200 + \$13\,440) \div 2 = \$12\,320$; net credit sales + GST = $\$146\,000 \times 1.1 = \$160\,600$; ARTO = $(\$12\,320 \div \$160\,600) \times 365 = \mathbf{28 \text{ days}}$. Accounts Payable Turnover: average payables = $(\$10\,800 + \$12\,960) \div 2 = \$11\,880$; net credit purchases + GST = $\$109\,500 \times 1.1 = \$120\,450$; APTO = $(\$11\,880 \div \$120\,450) \times 365 = \mathbf{36 \text{ days}}$.

Read together, the business takes $\mathbf{26 + 28 = 54 \text{ days}}$ to turn its inventory into cash — 26 days to sell it and a further 28 to collect from customers — but pays its own suppliers in just $\mathbf{36 \text{ days}}$. Because it must pay suppliers 18 days before the cash from customers arrives, there is an **18-day cash gap** that the business has to fund from its own cash reserves or borrowings. This is a liquidity pressure: to relieve it the business could sell inventory faster, collect from customers sooner, or negotiate longer credit terms with suppliers so that the payment period more closely matches the cycle.

Question 12

Rearranging the formula, average current liabilities = net operating cash $\div$ Cash Flow Cover = $\$100\,000 \div 2.5 = \mathbf{\$40\,000}$. Since average current liabilities = (opening + closing) $\div$ 2, closing current liabilities = $(2 \times \$40\,000) - \text{opening } \$38\,000 = \$80\,000 - \$38\,000 = \mathbf{\$42\,000}$.

Question 13

Rearranging the formula, average inventory = Inventory Turnover $\times$ Cost of Goods Sold $\div$ 365 = $40 \times \$146\,000 \div 365 = \mathbf{\$16\,000}$. Since average inventory = (opening + closing) $\div$ 2, closing inventory = $(2 \times \$16\,000) - \text{opening } \$14\,000 = \$32\,000 - \$14\,000 = \mathbf{\$18\,000}$.

Question 14

The business's liquidity **improved overall**. **Cash Flow Cover rose from 1.4 to 1.8 times**, so the operating cash generated now covers the average current liabilities by a wider margin — a favourable movement. **Inventory Turnover fell from 45 to 40 days** and **Accounts Receivable Turnover fell from 40 to 34 days**, both favourable: inventory sells faster and customers pay sooner, so the time to turn inventory into cash fell from $\mathbf{45 + 40 = 85 \text{ days}}$ to $\mathbf{40 + 34 = 74 \text{ days}}$. **Accounts Payable Turnover rose from 25 to 30 days**, meaning the business now takes a little longer to pay suppliers; provided this stays within the agreed credit terms it further helps cash flow by keeping cash in the business longer, and it narrows the cash gap between the 74-day cycle and the payment period. Every indicator points the same way — stronger operating cash, a shorter cash cycle and a slightly longer (but presumably still acceptable) payment period — so liquidity strengthened.

A useful item of **non-financial information** would be any of: the number of customer complaints or overdue accounts (does the faster collection reflect genuine improvement or pressure on customers?); the number of supplier disputes or lost settlement discounts (is the slower payment straining suppliers?); the number of stockouts (has faster inventory turnover started to cause lost sales?); or the reliability of major customers. Each helps the owner judge whether the improved figures are **sustainable**.

Question 15

It is **not fair** to conclude from these figures alone that *Perry Grocers* manages its liquidity better. The two businesses are in **very different industries**. A **supermarket** sells fast-moving, perishable, low-value groceries that must turn over in days, and sells largely for cash, so a 10-day Inventory Turnover and a very short collection period are normal and necessary. A **jeweller** sells high-value, non-perishable items that customers buy infrequently and often on credit or by instalment, so a much longer Inventory Turnover (100 days) and collection period (50 days) are entirely expected. Comparing the raw figures across such different businesses breaches the qualitative characteristic of **comparability** — like is not being compared with like. Each business should instead be judged against **its own** previous periods, its budget, and a benchmark for **its own industry**: *Quinton Jewellers* turning over inventory in 100 days may be excellent *for a jeweller*, just as *Perry's* 10 days is expected *for a supermarket*.

Question 16

Non-financial information is information **not expressed in dollars**. It plays an essential role in evaluating liquidity and performance because the financial indicators — Cash Flow Cover and the turnover ratios — tell the owner **what** has happened but not always **why**, are usually **averages** that can hide individual problems, and cannot capture

everything that will shape the business's future. Used **alongside** the financial figures, non-financial information gives a fuller, more reliable picture and supports better decisions. For example:

- The **number of customer complaints or overdue accounts** helps interpret the Accounts Receivable Turnover. A 30-day average looks healthy, but if it is dragged down by one large, unreliable customer, the number of overdue accounts reveals a collection and bad-debt risk the average conceals.
- The **number of stockouts or units sold** helps interpret Inventory Turnover. A very fast turnover looks good, but paired with frequent stockouts it warns that the business is understocking and losing sales — something the financial ratio alone would never show.

Other examples include supplier reliability and delivery times, market share, staff skill and the environmental impact of the business's trading. By reading these signals **together with** the financial indicators, the owner can judge not only how liquid the business appears on paper but whether that position is **genuine and sustainable**.

Question 17

The owner is **partly** right. Deliberately lengthening Accounts Payable Turnover from 30 to 55 days does help **cash flow and short-term liquidity**: by holding onto cash for an extra 25 days before paying suppliers, the business keeps more cash available to meet other debts, and effectively uses its suppliers as a source of **interest-free short-term finance**. This can also help close any cash gap between selling and collecting and paying.

However, calling it an unqualified “improvement” ignores the **costs and risks** of paying slowly. Paying at 55 days may mean the business **misses settlement discounts** it could have earned by paying promptly, raising its costs. It risks **damaging relationships** with suppliers, who may **refuse future credit, demand cash on delivery, charge interest or late fees**, or give the business **lower priority** for scarce stock. And if 55 days is **beyond the agreed credit terms**, the business is effectively breaking its commitments — an **ethical** problem that pushes its own liquidity pressure onto suppliers, some of whom may be small businesses that depend on prompt payment for their own survival. So a longer Accounts Payable Turnover improves liquidity **only if** it stays within agreed terms and the cash benefit outweighs the lost discounts and the risk to supplier relationships; stretched too far, it does more harm than good.

Question 18

Both instructions are designed to make the year-end indicators look better than the business's true position. **Halting supplier payments** for three weeks holds cash in the business over balance day, so the reported **net cash flows from Operating activities** — the numerator of the Cash Flow Cover — is **temporarily inflated**. The unpaid accounts do not disappear: they sit in **closing accounts payable**, so the current liabilities the cover is measured against are swollen as well, and the reported cover no longer describes anything the business has actually achieved. **Pressuring customers** into early payment lowers the closing accounts receivable, and so the average, making **Accounts Receivable Turnover look faster**. Neither reflects any real improvement in how the business trades; both merely shift the timing of cash around the balance date to flatter the reports.

These actions breach **faithful representation**: the reports and the indicators built from them must be **complete, free from material error and neutral (without bias)**, presenting the business's real liquidity rather than a window-dressed one. Stakeholders are harmed. **Suppliers** are paid late — including those offering settlement discounts, so the business also **loses those discounts and damages the relationships**, and small suppliers may face their own cash-flow crisis. **Customers** subjected to implied threats are treated unfairly and lose trust, and may take their business elsewhere. Any **lender or prospective buyer** relying on the flattering Cash Flow Cover and turnover figures is **misled** about the business's liquidity and may make decisions they would not make if they knew the true position. When the manipulation unwinds — the withheld payments fall due in the new period, and pressured customers stop buying — the reported improvement reverses. The ethical course is to report the indicators **honestly** and improve liquidity through genuine means: selling and collecting faster, managing inventory well, and generating real operating cash, rather than by exploiting suppliers and customers to disguise the figures.

Topic 6 Test A — Recording and analysis

Reading time: 10 minutes · Writing time: 50 minutes · 50 marks · A scientific calculator may be used.

Topic 6 covers Chapters 17–18: budgeting, and the evaluation of profitability and liquidity. Show all working. GST is 10% (1/11 of a GST-inclusive amount). Ratios expressed as $X : 1$ are stated to two decimal places; margins, returns and figures in “times” to one decimal place.

Question 1 (16 marks)

Kelvindale Homewares is a homewares retailer preparing an integrated budget for the year ending 30 June 2028. Its ledger balances at 1 July 2027 were:

Account	\$
Bank	12 000
Accounts Receivable	22 000
Inventory	28 000
Equipment (at cost)	90 000
Accumulated Depreciation – Equipment	18 000
Accounts Payable	16 000
GST Clearing (liability)	2 000
Loan – Northbank	30 000
Capital	86 000

For the year ending 30 June 2028 the business budgets the following (amounts marked “plus GST” attract 10% GST):

Budgeted item	\$
Cash sales (plus GST)	80 000
Credit sales (plus GST)	150 000
Cost of Sales	138 000
Credit purchases of inventory (plus GST)	145 000
Receipts from Accounts Receivable	158 000
Payments to Accounts Payable	150 000
Wages	40 000
Rent expense (plus GST)	15 000
Advertising (plus GST)	8 000
Interest expense	3 000
Depreciation – Equipment	9 000
Drawings	10 000
Loan repayment (principal)	6 000

The budgeted closing balance of **GST Clearing** at 30 June 2028 is **\$8 200** (a current liability). No non-current assets are to be bought or sold during the year.

- Prepare the Budgeted Income Statement for the year ending 30 June 2028 and state the budgeted Net Profit. 5 marks
- Reconstruct the Accounts Receivable and Accounts Payable accounts to find their budgeted closing balances, and calculate the budgeted closing balances of Inventory and Accumulated Depreciation – Equipment. 3 marks
- Prepare the Budgeted Cash Flow Statement for the year ending 30 June 2028 and state the expected Bank balance at 30 June 2028. 5 marks

d. Prepare the Budgeted Balance Sheet as at 30 June 2028.

3 marks

Question 2 (8 marks)

Larchfield Cycles expects a **Bank** balance of **\$9 000** on 1 October 2028. Its budget for October and November 2028 is:

Budgeted item	Oct \$	Nov \$
Cash sales (plus GST)	20 000	24 000
Receipts from Accounts Receivable (GST-inclusive)	38 000	42 000
Payments to Accounts Payable (GST-inclusive)	36 000	30 000
Wages	9 000	9 000
Rent expense (plus GST)	4 000	4 000
Advertising (plus GST)	1 000	1 500
Interest expense	500	500
Drawings	3 000	3 000

In **October** the business will buy a delivery van for cash, **\$28 000 plus \$2 800 GST**. In **November** the owner will contribute **\$5 000** of capital. No other cash flows are budgeted.

a. Prepare the Budgeted Cash Flow Statement for October and November 2028, showing each month in its own column.

5 marks

b. State the budgeted Bank balance at the end of each month, and identify the month in which a bank overdraft is forecast.

1 mark

c. Across the two months together the Bank is budgeted to rise, so the owner concludes that no action is needed. Discuss whether that conclusion is justified, and suggest one strategy the budget indicates Larchfield should consider.

2 marks

Question 3 (13 marks)

Corveth Retail provides the following information for the years ended 30 June 2027 and 30 June 2028:

Item	2027 \$	2028 \$
Net Sales	450 000	520 000
Cost of Sales	279 000	322 400
Net Profit	54 000	52 000
Total assets — 1 July	280 000	320 000
Total assets — 30 June	320 000	480 000
Capital — 1 July	250 000	290 000
Capital — 30 June	290 000	360 000

a. Calculate the Gross Profit Margin and the Net Profit Margin for each year.

3 marks

b. Calculate the Return on Owner's Investment, the Return on Assets and the Asset Turnover for each year.

4 marks

c. Show that Return on Assets = Net Profit Margin × Asset Turnover for 2028.

1 mark

d. For each year, calculate the gap (in percentage points) between the Gross Profit Margin and the Net Profit Margin, explain what this gap measures, and state what its change from 2027 to 2028 reveals about Corveth's control of its operating expenses.

3 marks

e. The Gross Profit Margin held steady while the Net Profit Margin and Return on Assets both fell. Analyse this trend to identify the cause, and recommend — with justification — one strategy to restore profitability. 2 marks

Question 4 (9 marks)

Delmore Provisions is a trading business. The current sections of its Balance Sheet as at 30 June 2028 are:

	\$	\$
Current Assets		
Bank	20 000	
Accounts Receivable	34 000	
Inventory	50 000	
Prepaid expenses	6 000	110 000
Current Liabilities		
Accounts Payable	44 000	
GST Clearing	6 000	
Accrued wages	5 000	55 000

Additional information for the year ended 30 June 2028: net cash flows from Operating activities were **\$78 000**, and current liabilities were **\$43 000** at 1 July 2027. There was no bank overdraft during the year. Delmore also reports the following **non-financial information** for the year: the number of customer complaints rose from **9 to 41**, two of its three largest credit customers began paying well beyond their agreed 30-day terms, and its main supplier failed to deliver stock on time on three occasions.

a. Calculate the Working Capital Ratio and the Quick Asset Ratio at 30 June 2028. 3 marks

b. Calculate the Cash Flow Cover. 2 marks

c. Interpret Delmore's liquidity using the three indicators, and explain how the non-financial information above might change your assessment of Delmore's ability to pay its debts as they fall due. 4 marks

Question 5 (4 marks)

Before balance day, Delmore Provisions (Question 4) is considering using **\$16 000** of its Bank to repay Accounts Payable early.

a. Model the effect of this decision on the Working Capital Ratio and the Quick Asset Ratio, and justify whether it improves Delmore's reported liquidity. 4 marks

Topic 6 Test A — solutions

Question 1

a. Budgeted Income Statement (Sales = cash 80 000 + credit 150 000; depreciation is an expense).

Budgeted Income Statement for the year ending 30 June 2028			\$	\$
Revenue				
Sales (cash 80 000 + credit 150 000)				230 000
Net Sales				230 000
less Cost of Sales				138 000
Gross Profit				92 000
less Expenses				
Wages	40 000			
Rent expense	15 000			
Advertising	8 000			
Interest expense	3 000			
Depreciation – Equipment	9 000			
Total Expenses				75 000
Budgeted Net Profit				17 000

∴ budgeted Net Profit = **\$17 000**.

b. Both amounts owing are reconstructed **GST-inclusive** (a credit sale or credit purchase adds the full GST-inclusive amount to the amount owed): credit sales incl. GST = $\$150\,000 \times 1.1 = \$165\,000$; credit purchases incl. GST = $\$145\,000 \times 1.1 = \$159\,500$.

Reconstruction	\$
Accounts Receivable at 1 Jul (opening)	22 000
plus budgeted credit sales (incl. GST)	165 000
less budgeted receipts from Accounts Receivable	158 000
Accounts Receivable at 30 Jun (closing)	29 000

Reconstruction	\$
Accounts Payable at 1 Jul (opening)	16 000
plus budgeted credit purchases (incl. GST)	159 500
less budgeted payments to Accounts Payable	150 000
Accounts Payable at 30 Jun (closing)	25 500

Closing **Accounts Receivable** = **\$29 000**; closing **Accounts Payable** = **\$25 500**. Closing **Inventory** = $28\,000 + 145\,000 - 138\,000 = \$35\,000$. Closing **Accumulated Depreciation** = $18\,000 + 9\,000 = \$27\,000$ (Equipment carrying amount = $90\,000 - 27\,000 = \$63\,000$).

c. **GST received** carries the GST on the **cash** sales only (\$8 000); the GST on the credit sales is already inside the \$158 000 of receipts from Accounts Receivable, and the GST on the credit purchases is inside the \$150 000 paid to

Accounts Payable, so those two lines are GST-inclusive lumps with no separate GST line. **GST paid** therefore carries only the GST on rent and advertising: \$1 500 + \$800 = **\$2 300**. Depreciation is **not** a cash flow. No settlement with the ATO is budgeted during the year, which is why GST Clearing is budgeted to rise from \$2 000 to \$8 200.

Budgeted Cash Flow Statement for
the year ending 30 June 2028

	\$	\$
Operating activities		
Cash sales	80 000	
Receipts from Accounts Receivable	158 000	
GST received	8 000	
Payments to Accounts Payable	(150 000)	
Wages	(40 000)	
Rent expense	(15 000)	
Advertising	(8 000)	
Interest expense	(3 000)	
GST paid	(2 300)	
Net cash from Operating activities		27 700
Financing activities		
Loan repayment	(6 000)	
Drawings	(10 000)	
Net cash used in Financing activities		(16 000)
Budgeted net increase in cash		11 700
Add: Bank balance at start (1 July 2027)		12 000
Budgeted Bank balance at end (30 June 2028)		23 700

∴ expected Bank balance at 30 June 2028 = **\$23 700**.

d. Budgeted Balance Sheet (Loan = 30 000 – 6 000 = \$24 000; Capital = 86 000 + 17 000 – 10 000 = \$93 000).

Budgeted Balance Sheet of Kelvindale Homewares as at 30 June 2028

	\$	\$
Current Assets		
Bank	23 700	
Accounts Receivable	29 000	
Inventory	35 000	87 700
Non-Current Assets		
Equipment	90 000	
less Accumulated Depreciation	(27 000)	63 000
Total Assets		150 700
Current Liabilities		
Accounts Payable	25 500	
GST Clearing	8 200	33 700
Non-Current Liabilities		
Loan – Northbank		24 000

	\$	\$
Total Liabilities		57 700
Owner's Equity		
Capital	86 000	
add Budgeted Net Profit	17 000	
less Drawings	(10 000)	93 000
Total Liabilities and Owner's Equity		150 700

Total Assets \$150 700 = Total Liabilities \$57 700 + Owner's Equity \$93 000, so the budget balances.

Question 2

a. GST received is 10% of each month's **cash** sales; the GST on the credit sales is already inside the receipts from Accounts Receivable, and the GST on the credit purchases is inside the payments to Accounts Payable, so neither carries a separate GST line. **GST paid** gathers the GST on that month's rent and advertising — and, in October, the \$2 800 GST on the van as well:

$$\text{October } \$400 + \$100 + \$2\,800 = \$3\,300 \quad \text{November } \$400 + \$150 = \$550$$

Budgeted Cash Flow Statement for the two months ending 30 November 2028 (by month)

Larchfield Cycles	Oct \$	Nov \$
Operating activities		
Cash sales	20 000	24 000
Receipts from Accounts Receivable	38 000	42 000
GST received	2 000	2 400
Payments to Accounts Payable	(36 000)	(30 000)
Wages	(9 000)	(9 000)
Rent expense	(4 000)	(4 000)
Advertising	(1 000)	(1 500)
Interest expense	(500)	(500)
GST paid	(3 300)	(550)
Net cash from Operating activities	6 200	22 850
Investing activities		
Purchase of delivery van	(28 000)	
Net cash used in Investing activities	(28 000)	—
Financing activities		
Capital contribution		5 000
Drawings	(3 000)	(3 000)
Net cash from Financing activities	(3 000)	2 000
Net increase/(decrease) in cash	(24 800)	24 850
Bank balance at start	9 000	(15 800)
Bank balance at end	(15 800)	9 050

The van sits in **Investing** at its **GST-exclusive** \$28 000, with its \$2 800 GST inside October's Operating **GST paid**. October's closing Bank becomes November's opening balance.

b. Budgeted Bank balance at 31 October 2028 = **(\$15 800)** — a budgeted **bank overdraft**; budgeted Bank balance at 30 November 2028 = **\$9 050**. The overdraft is forecast at the end of **October**.

c. The conclusion is **not justified**. Across the two months the Bank does rise — but only from \$9 000 to \$9 050, and that net figure **hides the timing** of the flows within the period. The van absorbs \$30 800 of cash (\$28 000 plus \$2 800 GST) in a single month, so October's cash falls by \$24 800 and the Bank is budgeted at **(\$15 800)** on 31 October: a real **bank overdraft** that must be arranged in advance, carries interest, and may be refused. Seeing the months **separately** is precisely what makes the Budgeted Cash Flow Statement useful — a combined two-month statement would show only the harmless \$50 increase and conceal the problem entirely. Note also that **trading** is not the cause: Operating cash is positive in both months (\$6 200 and \$22 850). **Strategy:** delay the van purchase until November, when the month's own operating cash is far stronger. October would then end at $9\ 000 + 6\ 000 = \mathbf{\$15\ 000}$ (its GST paid falls to \$500, lifting October's Operating cash to \$9 000, and after the \$3 000 of drawings its net cash flow is \$6 000), and November would end at $15\ 000 - 5\ 950 = \mathbf{\$9\ 050}$ — the same closing balance, with **no overdraft at any point**. Financing the van with a loan, or deferring the \$3 000 of October drawings, would ease the shortfall in the same way.

Question 3

a. & b. Averages: 2027 — average total assets $(280\ 000 + 320\ 000) \div 2 = \$300\ 000$, average capital $(250\ 000 + 290\ 000) \div 2 = \$270\ 000$; 2028 — average total assets $(320\ 000 + 480\ 000) \div 2 = \$400\ 000$, average capital $(290\ 000 + 360\ 000) \div 2 = \$325\ 000$. Gross Profit = Net Sales – Cost of Sales (2027: $450\ 000 - 279\ 000 = 171\ 000$; 2028: $520\ 000 - 322\ 400 = 197\ 600$).

Indicator	Formula	2027	2028
Gross Profit Margin	Gross Profit $\div$ Net Sales $\times$ 100	38.0%	38.0%
Net Profit Margin	Net Profit $\div$ Net Sales $\times$ 100	12.0%	10.0%
Return on Owner's Investment	Net Profit $\div$ Average Capital $\times$ 100	20.0%	16.0%
Return on Assets	Net Profit $\div$ Average Total Assets $\times$ 100	18.0%	13.0%
Asset Turnover	Net Sales $\div$ Average Total Assets	1.5 times	1.3 times

c. Return on Assets = Net Profit Margin $\times$ Asset Turnover: for 2028, $10.0\% \times 1.3 = \mathbf{13.0\%}$, which equals the Return on Assets calculated directly $(52\ 000 \div 400\ 000 \times 100 = 13.0\%)$.

d. The gap = Gross Profit Margin – Net Profit Margin. Because both margins are measured against the **same** net sales, their difference measures the **operating expenses** (all expenses other than cost of sales — wages, rent, advertising, interest, depreciation) contained in each dollar of net sales; equivalently it is the slice of the gross margin absorbed by those expenses before Net Profit is reached.

2027 gap = $38.0\% - 12.0\% = \mathbf{26.0\ percentage\ points}$; 2028 gap = $38.0\% - 10.0\% = \mathbf{28.0\ percentage\ points}$.

The gap **widened by 2.0 percentage points**. Since the Gross Profit Margin held steady at 38.0%, the whole of the fall in the Net Profit Margin ($12.0\% \rightarrow 10.0\%$) is explained by this wider gap: Corveth's operating expenses grew **faster than net sales**, so its **control of operating expenses weakened** in 2028.

e. The **Gross Profit Margin held steady at 38.0%**, so the buying-and-selling side (supplier cost prices, selling prices and mark-up) is unchanged — the fall in profitability is **not** in cost of sales. Because the margin held while the **Net Profit Margin fell** from 12.0% to 10.0%, the cause lies in operating expenses: as part **d.** shows, the gap between the two margins widened from 26.0 to 28.0 percentage points, i.e. **operating expenses grew relative to net sales**. Return on Assets fell further, from 18.0% to 13.0%, because **both levers weakened** — the Net Profit Margin fell **and** Asset

Turnover slipped from 1.5 to 1.3 times, as average total assets grew faster than sales (the closing asset base jumped to \$480 000), so the newly acquired assets are not yet generating proportional sales. **Recommended strategy:** rein in the rising operating expenses that widened the margin gap — for example roster staff more tightly or trim discretionary spending — to lift the Net Profit Margin, and work the enlarged asset base harder (promotion to convert the new assets into sales) to lift Asset Turnover. **Justification:** since $\text{Return on Assets} = \text{Net Profit Margin} \times \text{Asset Turnover}$, restoring either lever restores Return on Assets, and attacking operating expenses addresses the cause without disturbing the healthy 38.0% gross margin.

Question 4

a. Working Capital Ratio and Quick Asset Ratio (quick assets exclude inventory and prepaid expenses):

Working	\$
Current assets	110 000
Current liabilities	55 000
Working Capital Ratio = $110\,000 \div 55\,000$	2.00 : 1
Quick assets = $110\,000 - 50\,000 - 6\,000$	54 000
Quick Asset Ratio = $54\,000 \div 55\,000$ (current liabilities)	0.98 : 1

b. Average current liabilities = $(43\,000 + 55\,000) \div 2 = \$49\,000$. **Cash Flow Cover** = $78\,000 \div 49\,000 = 1.6$ times.

c. On the **financial** indicators, Delmore's liquidity looks **broadly sound**: the Working Capital Ratio sits exactly on the 2 : 1 guide (\$2.00 of current assets to every \$1.00 of current liabilities); the Quick Asset Ratio of 0.98 : 1 is a shade under 1 : 1, showing the business can **almost, but not quite**, cover its immediate debts from cash and receivables without selling inventory; and the Cash Flow Cover of 1.6 times shows one year's operating cash comfortably exceeded the average current liabilities. Read alone, this is a business that can pay its way. The **non-financial information changes that assessment for the worse**. Both the Working Capital Ratio and (especially) the Quick Asset Ratio lean heavily on **Accounts Receivable** turning into cash on time, yet two of the three largest credit customers are now **paying well beyond their 30-day terms** — so the \$34 000 of receivables is slower and less certain than the ratios assume, weakening real liquidity below what the 0.98 : 1 suggests. The **jump in complaints from 9 to 41** signals possible future falls in sales (and therefore in operating cash, on which the Cash Flow Cover depends), while the **supplier's unreliable deliveries** raise the risk of stockouts that could interrupt trading and cash inflow. Taken together, the non-financial signals warn that Delmore's ability to pay its debts as they fall due is **more fragile than the indicators alone imply**, and that the near-1 : 1 Quick Asset Ratio leaves little margin if debtors keep slipping.

Question 5

Repaying \$16 000 of Accounts Payable with Bank reduces **both** current assets (Bank) and current liabilities (Accounts Payable) by \$16 000; quick assets fall by \$16 000 too (Bank is a quick asset):

Item	Before	After
Current assets	110 000	94 000
Current liabilities	55 000	39 000
Quick assets (CA – inventory – prepaid)	54 000	38 000
Working Capital Ratio	2.00 : 1	2.41 : 1
Quick Asset Ratio	0.98 : 1	0.97 : 1

New Working Capital Ratio = $94\,000 \div 39\,000 = 2.41 : 1$; new Quick Asset Ratio = $38\,000 \div 39\,000 = 0.97 : 1$. The two ratios move in **opposite** directions, and the reason is arithmetic — subtracting the same \$16 000 from the top and bottom **raises** a ratio that is already **above** 1 : 1 (the Working Capital Ratio, up from 2.00 to 2.41) but **lowers** a ratio that is already **below** 1 : 1 (the Quick Asset Ratio, down from 0.98 to 0.97). **Justification:** the decision does **not** genuinely improve Delmore's liquidity. The Working Capital Ratio looks stronger, but the more demanding Quick Asset Ratio — the better guide to paying immediate debts — **actually slips**, and the real cash buffer has fallen by \$16

000. Repaying early is worthwhile only if it secures a settlement discount or protects supplier goodwill; it should not be done to “improve” the reported ratios, because the headline Working Capital Ratio overstates any real gain in short-term security.

Topic 6 Test B — Short-answer recording

Reading time: 10 minutes · Writing time: 45 minutes · 40 marks · A scientific calculator may be used.

Topic 6 covers Chapters 17–18. Show all working. GST is 10% (1/11 of a GST-inclusive amount). Ratios expressed as $X : 1$ are stated to two decimal places; margins, returns and figures in “times” to one decimal place.

Question 1 (5 marks)

Tolland Supplies budgets credit sales (plus GST) of **\$40 000** in August and **\$50 000** in September. From experience it expects to collect **25% of a credit sale in the month of sale and 75% in the following month**. There are no debts outstanding before August.

- a. Calculate the GST-inclusive amount of the credit sales for August and for September. 1 mark
- b. Calculate the budgeted cash to be received from Accounts Receivable in September. 2 marks
- c. Reconstruct the Accounts Receivable account for September, showing the opening and closing balances. 2 marks

Question 2 (5 marks)

Marrick Wholesalers budgets credit purchases of inventory (plus GST) of **\$25 000** in August and **\$35 000** in September. It expects to pay **40% of a credit purchase in the month of purchase and 60% in the following month**. Nothing is owing to suppliers before August.

- a. Calculate the GST-inclusive amount of the credit purchases for August and for September. 1 mark
- b. Calculate the budgeted cash to be paid to Accounts Payable in September. 2 marks
- c. Reconstruct the Accounts Payable account for September, showing the opening and closing balances. 2 marks

Question 3 (6 marks)

Kinbrae Supplies budgets the following for the month ending 31 May 2028:

Budgeted item	\$
Cash sales (plus GST)	30 000
Credit sales (plus GST)	50 000
Cost of Sales	48 000
Wages	12 000
Rent expense (plus GST)	4 000
Advertising (plus GST)	2 000
Interest expense	800
Depreciation – equipment	1 200
Drawings	5 000
Loan repayment (principal)	2 000

- a. Prepare the Budgeted Income Statement for the month ending 31 May 2028. 4 marks
- b. Explain why the budgeted Drawings of \$5 000 and the \$2 000 loan repayment do not appear in the Budgeted Income Statement, and state where each is reported instead. 2 marks

Question 4 (7 marks)

Vasseur Trading reports for the year ended 30 June 2028: Net Sales \$400 000; Cost of Sales \$250 000; Net Profit \$36 000. Capital was \$160 000 at 1 July 2027 and \$200 000 at 30 June 2028. Total assets were \$220 000 at 1 July 2027 and \$260 000 at 30 June 2028.

- a. Calculate the Gross Profit Margin and the Net Profit Margin. 2 marks

- b.** Calculate the Return on Owner's Investment, the Return on Assets and the Asset Turnover. 3 marks
- c.** Vasseur's Return on Owner's Investment is higher than its Return on Assets. Explain why, referring to gearing. 2 marks

Question 5 (6 marks)

Ashworth Retail reports the following at 30 June 2028. Current Assets: Bank \$8 000, Accounts Receivable \$28 000, Inventory \$40 000, Prepaid expenses \$4 000. Current Liabilities: Accounts Payable \$34 000, GST Clearing \$4 000, Accrued wages \$2 000. Net cash flows from Operating activities were \$54 000, and current liabilities were \$32 000 at 1 July 2027. There was no bank overdraft.

- a.** Calculate the Working Capital Ratio and the Quick Asset Ratio. 3 marks
- b.** Calculate the Cash Flow Cover. 2 marks
- c.** State whether Ashworth can meet its immediate current liabilities without selling inventory, and why. 1 mark

Question 6 (5 marks)

Bramford Traders' manager earns a bonus if the business's **Working Capital Ratio is at least 2.00 : 1** at 30 June 2028. On 29 June the genuine current assets are **\$94 000** and current liabilities are **\$50 000**. To lift the ratio, the manager decides to **delay recording \$4 000 of supplier invoices** (for inventory already received and on hand) until 2 July, so that they fall outside the 30 June reports.

- a.** Calculate the genuine Working Capital Ratio at 30 June, and the ratio the manager would report after delaying the \$4 000 of invoices. 2 marks
- b.** Explain whether delaying the invoices changes Bramford's real ability to pay its debts as they fall due. 1 mark
- c.** Discuss the ethical considerations raised by the manager's actions, referring to at least one qualitative characteristic. 2 marks

Question 7 (6 marks)

Kesgrave Trading expects to begin August with a Bank balance of **\$6 000**. Its budget for the month ending 31 August 2028 is: cash sales \$48 000 plus \$4 800 GST; receipts from Accounts Receivable \$24 000 (GST-inclusive); payments to Accounts Payable \$33 000 (GST-inclusive); Wages \$12 000; Rent expense \$5 000 plus \$500 GST; a payment of \$3 100 to the ATO to settle the previous quarter's BAS; the cash purchase of equipment for \$14 000 plus \$1 400 GST; a capital contribution by the owner \$10 000; and Drawings \$4 000.

- a.** Prepare the Budgeted Cash Flow Statement for the month ending 31 August 2028. 5 marks
- b.** State the expected Bank balance at 31 August 2028 and whether a bank overdraft is forecast. 1 mark

Topic 6 Test B — solutions

Question 1

a. August: $\$40\,000 \times 1.1 = \$44\,000$; September: $\$50\,000 \times 1.1 = \$55\,000$. (The collection pattern is applied to the GST-inclusive total the customer owes.)

b. September receipts = $25\% \times \$55\,000 + 75\% \times \$44\,000 = \$13\,750 + \$33\,000 = \$46\,750$.

c. Opening balance (1 Sep) = the 75% of August's GST-inclusive sales still owing = $75\% \times \$44\,000 = \$33\,000$.

Reconstruction	\$
Accounts Receivable at 1 Sep (opening)	33 000
plus budgeted credit sales for September (incl. GST)	55 000
less budgeted receipts from Accounts Receivable	46 750
Accounts Receivable at 30 Sep (closing)	41 250

The closing \$41 250 is the 75% of September's \$55 000 of credit sales still to be collected in October.

Question 2

a. August: $\$25\,000 \times 1.1 = \$27\,500$; September: $\$35\,000 \times 1.1 = \$38\,500$.

b. September payments = $40\% \times \$38\,500 + 60\% \times \$27\,500 = \$15\,400 + \$16\,500 = \$31\,900$.

c. Opening balance (1 Sep) = the 60% of August's GST-inclusive purchases still owing = $60\% \times \$27\,500 = \$16\,500$.

Reconstruction	\$
Accounts Payable at 1 Sep (opening)	16 500
plus budgeted credit purchases for September (incl. GST)	38 500
less budgeted payments to Accounts Payable	31 900
Accounts Payable at 30 Sep (closing)	23 100

The closing \$23 100 is the 60% of September's \$38 500 of credit purchases still to be paid in October.

Question 3

a. Sales are reported **GST-exclusive** (the GST collected is a liability owed to the ATO, not revenue), so budgeted Sales = cash 30 000 + credit 50 000 = **\$80 000**. Depreciation is an expense even though it uses no cash.

Budgeted Income

Statement for the month

ending 31 May 2028	\$	\$
Revenue		
Sales (cash 30 000 + credit 50 000)		80 000
Net Sales		80 000
less Cost of Sales		48 000
Gross Profit		32 000
less Expenses		
Wages	12 000	
Rent expense	4 000	

Budgeted Income Statement for the month ending 31 May 2028	\$	\$
Advertising	2 000	
Interest expense	800	
Depreciation – equipment	1 200	
Total Expenses		20 000
Budgeted Net Profit		12 000

∴ budgeted Net Profit = **\$12 000**.

b. Neither item is an **expense**, so neither belongs in the Budgeted Income Statement. **Drawings** of \$5 000 are a withdrawal of resources by the owner for private use — a **decrease in Owner's Equity**, not a cost incurred in earning revenue — so they are deducted from Capital in the **Budgeted Balance Sheet** (and shown as a **Financing** outflow in the Budgeted Cash Flow Statement). The **\$2 000 loan repayment** is a repayment of **principal**: it settles a **liability**, so it reduces the Loan in the **Budgeted Balance Sheet** and is likewise a **Financing** outflow in the Budgeted Cash Flow Statement. Only the **interest** on the loan (\$800) is an expense, and it is already included above.

Question 4

Averages: average capital = $(160\,000 + 200\,000) \div 2 = \$180\,000$; average total assets = $(220\,000 + 260\,000) \div 2 = \$240\,000$. Gross Profit = $400\,000 - 250\,000 = \$150\,000$.

a. Gross Profit Margin = $150\,000 \div 400\,000 \times 100 = \mathbf{37.5\%}$; Net Profit Margin = $36\,000 \div 400\,000 \times 100 = \mathbf{9.0\%}$.

b. Return on Owner's Investment = $36\,000 \div 180\,000 \times 100 = \mathbf{20.0\%}$; Return on Assets = $36\,000 \div 240\,000 \times 100 = \mathbf{15.0\%}$; Asset Turnover = $400\,000 \div 240\,000 = \mathbf{1.7\,times}$. (Check: $\text{Return on Assets} = \text{Net Profit Margin} \times \text{Asset Turnover} = 9.0\% \times 1.667 = 15.0\%$.)

c. The two indicators use the **same net profit** (\$36 000) on top; only the base underneath differs. Return on Owner's Investment divides by **average capital** (\$180 000), while Return on Assets divides by **average total assets** (\$240 000). Because Vasseur is **geared** — some of its \$240 000 of assets is financed by **liabilities**, not by the owner — its average capital is **smaller** than its average total assets. Dividing the same profit by the **smaller** owner's base gives the **higher** percentage, so Return on Owner's Investment (20.0%) exceeds Return on Assets (15.0%): the owner earns a return on borrowed funds put to work in the assets as well as on their own capital.

Question 5

a. Current assets = $8\,000 + 28\,000 + 40\,000 + 4\,000 = \$80\,000$; current liabilities = $34\,000 + 4\,000 + 2\,000 = \$40\,000$.

Working	\$
Working Capital Ratio = $80\,000 \div 40\,000$	2.00 : 1
Quick assets = $80\,000 - 40\,000 - 4\,000$	36 000
Quick Asset Ratio = $36\,000 \div 40\,000$	0.90 : 1

b. Average current liabilities = $(32\,000 + 40\,000) \div 2 = \$36\,000$; **Cash Flow Cover** = $54\,000 \div 36\,000 = \mathbf{1.5\,times}$.

c. No. The Quick Asset Ratio is **0.90 : 1**, below 1 : 1, so Ashworth's quick assets (\$36 000) are **less** than its current liabilities (\$40 000); it could not meet its immediate debts without first selling inventory.

Question 6

a. Genuine Working Capital Ratio = $94\,000 \div 50\,000 = \mathbf{1.88 : 1}$ (below the 2.00 : 1 bonus threshold). Delaying \$4 000 of supplier invoices leaves Accounts Payable — and therefore current liabilities — \$4 000 lower, at \$46 000, while current assets are unchanged at \$94 000: reported Working Capital Ratio = $94\,000 \div 46\,000 = \mathbf{2.04 : 1}$, which now clears the threshold.

b. No. Delaying the invoices does **not** change Bramford's real ability to pay its debts. The \$4 000 debt genuinely exists — the goods have been received and are on hand — so the obligation is simply **concealed**, not removed. Real liquidity is unchanged (if anything slightly worse, because a liability has been hidden from the reports).

c. The manager's actions are **unethical**. Deliberately omitting a \$4 000 liability that exists at balance day means the reports no longer **faithfully represent** Bramford's position — they are not **complete** (a real debt is left out), not **free from material error**, and not **neutral** (they are biased to trigger the bonus). Users who rely on the reports — the **owner**, and any **bank or supplier** assessing Bramford's short-term solvency — would be **misled** into thinking liquidity is stronger than it is. Chasing a personal bonus by manipulating the figures also breaches the manager's duty of honesty to the owner; the ethical course is to report the invoices in the period they belong to and let the Working Capital Ratio show its true 1.88 : 1. *(Relevance and verifiability are also acceptable characteristics to cite — the reported figure would not be a verifiable, decision-useful measure of liquidity.)*

Question 7

a. GST received = \$4 800, the GST on the cash sales. **GST paid** = \$500 (rent) + \$1 400 (equipment) = **\$1 900**; the equipment itself appears in **Investing** at its GST-exclusive \$14 000. The \$3 100 **paid to the ATO** is a separate Operating outflow — it settles the previous quarter's BAS rather than the GST on this month's purchases. The receipts from Accounts Receivable and the payments to Accounts Payable are GST-inclusive lumps, so neither carries a GST line. The owner's capital contribution and Drawings are Financing flows.

Budgeted Cash Flow Statement for the month ending 31 August 2028

	\$	\$
Operating activities		
Cash sales	48 000	
Receipts from Accounts Receivable	24 000	
GST received	4 800	
Payments to Accounts Payable	(33 000)	
Wages	(12 000)	
Rent expense	(5 000)	
GST paid	(1 900)	
GST paid to the ATO	(3 100)	
Net cash from Operating activities		21 800
Investing activities		
Purchase of equipment	(14 000)	
Net cash used in Investing activities		(14 000)
Financing activities		
Capital contribution	10 000	
Drawings	(4 000)	
Net cash from Financing activities		6 000
Budgeted net increase in cash		13 800
Add: Bank balance at start (1 August 2028)		6 000
Budgeted Bank balance at end (31 August 2028)		19 800

b. Expected Bank balance at 31 August 2028 = **\$19 800**. Because this is **positive**, **no bank overdraft is forecast**.