

VCE VM Numeracy Unit 2

Chapter 8 — GAT Section A numeracy practice

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Chapter 8 GAT Section A numeracy practice — 8A GAT Section A numeracy practice 1

About this practice set — what the GAT is. The General Achievement Test (GAT) is a statewide test sat by VCE students. Its Section A holds a two-stage writing task and 100 multiple-choice questions: 50 numeracy questions and 50 textual (reading) questions. Students enrolled in the VCE Vocational Major sit Section A only when they are not enrolled in any VCE or scored VCE VET Unit 3–4 sequence. This set practises the **numeracy** multiple-choice half — 50 original GAT-style questions that draw on the areas of study taught in this book: dimension and direction, data, uncertainty and systematics. The writing task and the textual questions are practised in VM Literacy, not here. Practice set 2 (8B) gives a second full set; the answers and fully-worked solutions for both sets are at the back of this chapter.

Materials: pen, paper; a scientific calculator may be used. 50 multiple-choice questions (50 marks). Suggested time: about 75 minutes — roughly one and a half minutes per question, so if a question is taking much longer, mark it, guess, and come back at the end.

About the data in this practice set. The prices, times and other numbers here are **made up** (not real): pretend people, pretend businesses and pretend numbers, built for this book so you can practise the maths. Nothing here is real data about a real business, person or place.

Choose the response that is correct for the question.

Questions 1–3

Zali’s family runs a pie stall at the Wollaroo Flat Saturday Market. The table shows their prices.

Item	Price
Meat pie	\$5.20
Veggie pie	\$4.60
Sausage roll	\$3.80

Question 1

Kahu buys 3 meat pies and 2 veggie pies from the stall. The total cost is

- A. \$9.80
- B. \$19.60
- C. \$24.80
- D. \$248.00

Question 2

Kahu pays for those pies with a \$50 note. The change he gets back is

- A. \$24.80
- B. \$25.20
- C. \$25.80
- D. \$74.80

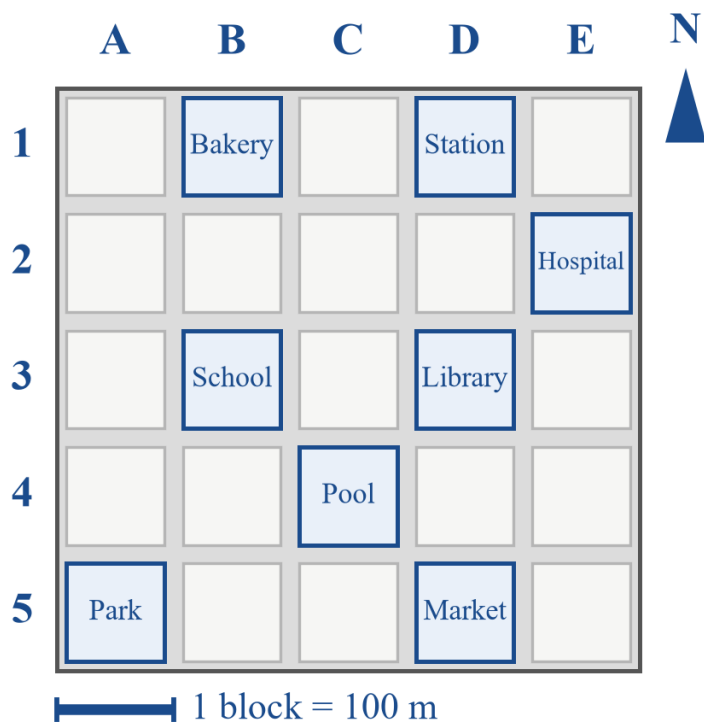
Question 3

Late in the day, one customer buys 8 meat pies. Which is closest to the cost of the 8 pies?

- A. \$ 40
- B. \$ 8
- C. \$ 104
- D. \$ 400

Questions 4–6

The map shows the town of Wollaroo Flat. Each block along a street is 100 m.



Question 4

What is the grid reference of the pool?

- A. 4C
- B. C4
- C. C3
- D. B4

Question 5

What is the direction of the pool from the school?

- A. north-east
- B. east
- C. south
- D. south-east

Question 6

Kahu walks along the streets from the bakery to the library. The shortest distance he can walk is

- A. 200 m
- B. 300 m
- C. 400 m
- D. 40 m

Questions 7–9

Route 518 runs from Kiambla to Sorrell Point. The timetable shows the times on weekdays.

Trip	Kiambla Shops	Post Office	Sports Ground	Sorrell Point
1	07:10	07:22	07:35	07:50
2	08:10	08:22	08:35	08:50
3	09:20	09:32	09:45	10:00
4	13:50	14:02	14:15	14:30

Question 7

The trip 4 bus leaves Kiambla Shops at 13:50. Written in 12-hour time, this departure is

- A. 1:50 am
- B. 11:50 pm
- C. 13:50 pm
- D. 1:50 pm

Question 8

How long does any trip take from Kiambla Shops to Sorrell Point?

- A. 40 minutes
- B. 30 minutes
- C. 50 minutes
- D. 1 hour 40 minutes

Question 9

Ewan must be at Sorrell Point by 09:00. What is the latest trip he can catch from Kiambla Shops?

- A. Trip 1
- B. Trip 2
- C. Trip 3
- D. Trip 4

Questions 10–12

Zali's netball team scored these goals in their first 6 games of the season: 8, 11, 9, 14, 10, 8.

Question 10

The mean number of goals per game is

- A. 8
- B. 14
- C. 10
- D. 60

Question 11

The range of the goals scored is

- A. 14
- B. 8
- C. 22
- D. 6

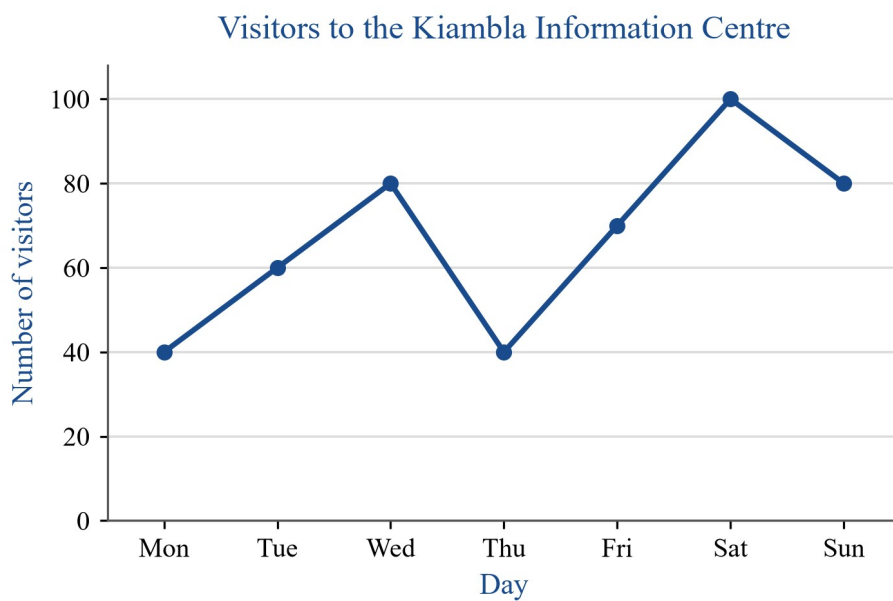
Question 12

In how many games did the team score more goals than the mean?

- A. 2
- B. 1
- C. 3
- D. 4

Questions 13–15

The line graph shows the number of visitors to the Kiambla Information Centre in one week.



Question 13

How many visitors came on Friday?

- A. 60
- B. 65
- C. 70
- D. 75

Question 14

From Wednesday to Thursday, the number of visitors

- A. rose by 40
- B. fell by 40
- C. fell by 20
- D. stayed the same

Question 15

Which sentence best describes the number of visitors over the week?

- A. It rose from Monday to Wednesday, fell on Thursday, then rose again to its highest on Saturday.
- B. It fell on every day of the week.
- C. It was the same on every day of the week.
- D. It was highest on Monday, then fell for the rest of the week.

Questions 16–17

Nikau counted the buses arriving at the Kiambla Shops stop, one hour at a time, for 15 hours. The table shows what he found.

Buses in one hour	Number of hours
4	2
5	5
6	4
7	3
8	1

Question 16

The mean number of buses per hour, correct to 1 decimal place, is

- A. 5.7
- B. 6
- C. 15
- D. 86

Question 17

The range of the buses per hour is

- A. 86
- B. 15
- C. 8
- D. 4

Questions 18–20

A game at the Wollaroo Flat Saturday Market uses this spinner. The 8 sections are equal.



Question 18

The chance of spinning WIN, as a fraction in simplest form, is

- A. $\frac{8}{3}$
- B. $\frac{5}{8}$
- C. $\frac{3}{8}$
- D. $\frac{3}{5}$

Question 19

The chance of spinning WIN, as a percentage, is

- A. 0.375 %
- B. 37.5 %
- C. 3.75 %
- D. 62.5 %

Question 20

The stall repaints one LOSE section so that it says WIN. The chance of spinning WIN, as a fraction in simplest form, is now

A. $\frac{3}{8}$

B. $\frac{4}{8}$

C. $\frac{1}{4}$

D. $\frac{1}{2}$

Questions 21–22

A raffle barrel at the market holds 20 tickets. 4 of the tickets win a prize. Zali buys one ticket.

Question 21

The chance that Zali's ticket wins, as a fraction in simplest form, is

A. $\frac{4}{20}$

B. $\frac{1}{5}$

C. $\frac{1}{4}$

D. $\frac{4}{5}$

Question 22

The chance that Zali's ticket wins, as a percentage, is

A. 4 %

B. 25 %

C. 20 %

D. 80 %

Question 23

A weather app shows an 85 % chance of rain at Wollaroo Flat on Saturday. Which chance word best describes the chance of rain?

A. unlikely

B. even chance

C. likely

D. certain

Question 24

A bag holds tickets numbered 1 to 10. One ticket is drawn out. The event is: the ticket drawn is numbered 15. Which chance word describes this event?

- A. impossible
- B. unlikely
- C. even chance
- D. certain

Question 25

Two friends want a game where both of them have the same chance of winning. Which game is fair?

- A. A spinner with 8 equal sections: 5 say YOU WIN and 3 say I WIN.
- B. A standard die is rolled once: you win on an even number, I win on an odd number.
- C. A bag holds 3 red and 7 blue counters: you win if red is drawn, I win if blue is drawn.
- D. A spinner with 8 equal sections: 3 say YOU WIN and 5 say I WIN.

Questions 26–28

A different spinner has 8 equal sections numbered 1 to 8. It is spun once.

Question 26

The event is: the spinner lands on a multiple of 3. Which list shows all the favourable outcomes?

- A. {1, 2, 3}
- B. {2, 4, 6, 8}
- C. {3, 6, 9}
- D. {3, 6}

Question 27

The chance of landing on a multiple of 3, as a fraction in simplest form, is

- A. $\frac{1}{4}$
- B. $\frac{2}{8}$
- C. $\frac{1}{3}$
- D. $\frac{3}{8}$

Question 28

Which chance word describes the event ‘the spinner lands on a number less than 9’?

- A. unlikely
- B. even chance
- C. certain
- D. impossible

Questions 29–31

Zali works weekend shifts at the Wollaroo Flat bakery. Her shifts this weekend are in the table. She is paid \$22.45 per hour and takes no meal breaks.

Day	Start	Finish
Friday	16:30	21:00
Saturday	08:00	13:00

Question 29

How long is Zali’s shift on Friday?

- A. 4 hours 50 minutes
- B. 4 hours 30 minutes
- C. 5 hours 30 minutes
- D. 3 hours 30 minutes

Question 30

Zali’s Friday shift starts at 16:30. Written in 12-hour time, this is

- A. 6:30 am
- B. 4:30 am
- C. 6:30 pm
- D. 4:30 pm

Question 31

Zali’s total pay for the two shifts, correct to the nearest cent, is

- A. \$132.46
- B. \$213.27
- C. \$213.28
- D. \$2132.75

Questions 32–34

Nikau is planning a birthday party at the Wollaroo Flat Community Hall.

Question 32

The party must start at 18:00. Before it starts, Nikau needs 50 minutes to put up the decorations, 25 minutes to set out the food and 45 minutes to set up the music. He does the three jobs one after another. The latest time he can start is

- A. 16:00
- B. 17:15
- C. 17:35
- D. 20:00

Question 33

Ice-cream cups cost \$2.60 each at the market stall. Nikau has \$30 to spend on them. The greatest number of ice-cream cups he can buy is

- A. 10
- B. 11.5
- C. 12
- D. 11

Question 34

The bakery charges \$45 for a party cake, plus \$6 for each extra serving, plus \$12 for delivery. Which change would make the total cost smaller?

- A. Order 5 extra servings of cake.
- B. Upgrade to a two-tier cake that costs \$25 more.
- C. Collect the cake from the shop instead of paying for delivery.
- D. Add extra icing to every serving, at \$2 more per serving.

Questions 35–37

Kahu walks the Sorrell Point walking track. The track map uses the scale 1 cm = 200 m. On the map, the track from the car park to the lookout measures 8 cm.

Question 35

What is the actual length of the track from the car park to the lookout?

- A. 208 m
- B. 1600 m
- C. 800 m
- D. 2000 m

Question 36

Written in kilometres, this length is

- A. 1.6 km
- B. 16 km
- C. 0.16 km
- D. 160 km

Question 37

At the lookout, Kahu is facing west. He makes a quarter turn clockwise. Which compass direction is he facing now?

- A. south
- B. east
- C. west
- D. north

Question 38

The minute hand of a clock moves from the 12 to the 6. Through what angle has the minute hand turned?

- A. 45°
- B. 90°
- C. 180°
- D. 360°

Question 39

A square pizza is cut into 4 equal slices. The angle of each slice is

- A. 45°
- B. 90°
- C. 180°
- D. 360°

Question 40

Nikau measures a shelf with a tape measure. One end of the shelf sits at the 15 cm mark and the other end sits at the 68 cm mark. The length of the shelf is

- A. 53 cm
- B. 68 cm
- C. 15 cm
- D. 83 cm

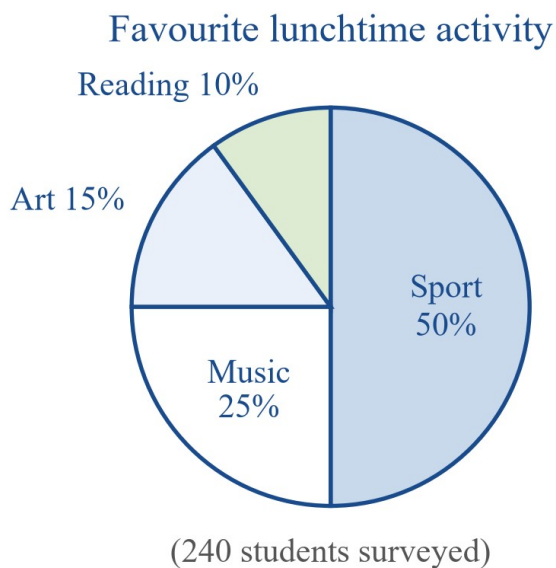
Question 41

A cake recipe uses 3.2 kg of flour. Written in grams, this mass is

- A. 32 g
- B. 320 g
- C. 3200 g
- D. 32 000 g

Questions 42–44

Wollaroo Flat School asked 240 students about their favourite lunchtime activity. The pie chart shows the results.

**Question 42**

How many students chose Music?

- A. 24
- B. 60
- C. 25
- D. 120

Question 43

How many more students chose Sport than chose Art?

- A. 35
- B. 36
- C. 120
- D. 84

Question 44

The school wants a display that shows each activity's share of the whole survey. Which display is best for this?

- A. a pie chart
- B. a line graph
- C. a dot plot
- D. a frequency table

Question 45

The market pie stall records the type of each pie it sells: meat, veggie or chicken. What type of data is 'type of pie'?

- A. numerical, counted data
- B. numerical, measured data
- C. categorical data
- D. grouped data

Question 46

The Kiambla Information Centre counts its visitors with tally marks. In one hour the tally shows 4 full gates and 3 extra strokes. How many visitors came in that hour?

- A. 7
- B. 23
- C. 20
- D. 43

Question 47

Which of these is primary data?

- A. The goals scored at Saturday's games, read from the football league's printed report.
- B. The rainfall totals posted on a weather website.
- C. The ticket prices listed on a cinema website.
- D. The number of customers walking into a market stall, counted and tallied by you.

Questions 48–49

Kiambla Couriers works out parcel costs in a spreadsheet. The cost of a parcel is its weight times the rate per kilogram. Cell D2 holds the formula $=B2 * C2$, and this formula is filled down into cells D3 and D4. The sheet is shown below.

Parcel (A)	Weight kg (B)	Rate \$/kg (C)	Cost \$ (D)
Parcel 1 (row 2)	2.0	6.20	$=B2 * C2$
Parcel 2 (row 3)	4.5	6.20	$=B3 * C3$
Parcel 3 (row 4)	1.2	6.20	$=B4 * C4$
Total (row 5)			$=SUM (D2 : D4)$

Question 48

What value will be shown in cell D3?

- A. \$ 27.90
- B. \$ 12.40
- C. \$ 10.70
- D. \$ 47.74

Question 49

What value will be shown in cell D5?

- A. \$ 27.90
- B. \$ 40.30
- C. \$ 7.70
- D. \$ 47.74

Question 50

Ewan drives from Wollaroo Flat to Kiambla, a distance of 350 km. His car uses 8 L of fuel per 100 km. How many litres of fuel does the trip use?

- A. 2.8 L
- B. 28 L
- C. 43.75 L
- D. 358 L

End of Practice Set 1

Chapter 8 GAT Section A numeracy practice — 8B GAT Section A numeracy practice 2

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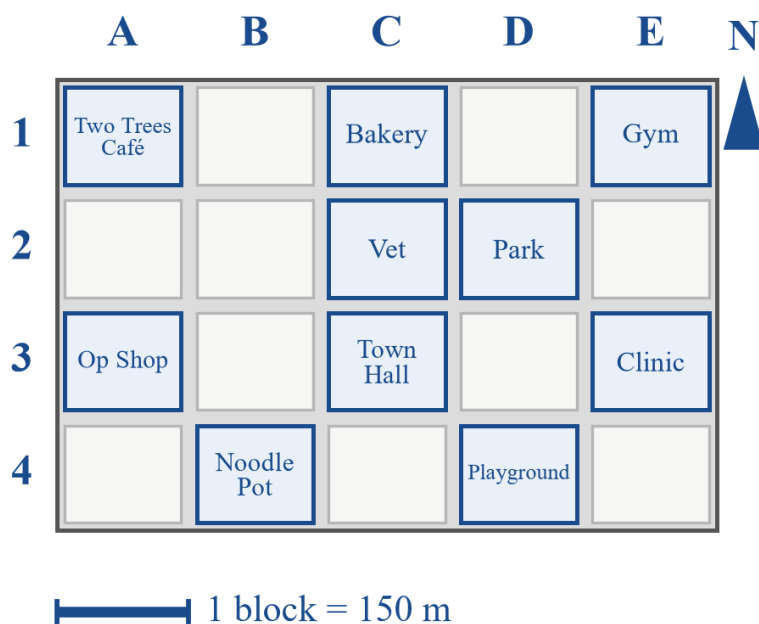
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Choose the response that is correct for the question.

Questions 1–4

The map shows the town of Fernbank. Each block along a street is 150 m.



Question 1

What is the grid reference of the Noodle Pot?

- A. 4B
- B. B4
- C. B3
- D. D4

Question 2

What is the direction of the park from the town hall?

- A. north
- B. east
- C. north-east
- D. south-east

Question 3

Rangi starts at the Two Trees Café and walks 2 blocks east and 1 block south along the streets. Where is she now?

- A. at the vet
- B. at the park
- C. at the town hall
- D. at the bakery

Question 4

How far is it along the streets from the Op Shop to the clinic?

- A. 300 m
- B. 450 m
- C. 900 m
- D. 600 m

Question 5

At the town hall, Rangi is facing north. She turns 45° clockwise. Which direction is she facing now?

- A. north
- B. north-east
- C. east
- D. south-east

Question 6

Still at the town hall, Rangi turns 360° clockwise from north. Which direction is she facing now?

- A. north
- B. south
- C. east
- D. west

Question 7

Rangi now faces east and turns 180° clockwise. Which direction is she facing now?

- A. north
- B. east
- C. west
- D. south

Question 8

The fete marquee needs 5 lengths of rope, and each length is 4.5 m. The total length of rope needed is

- A. 9 m
- B. 2.25 m
- C. 45 m
- D. 22.5 m

Question 9

A 15 cm offcut of timber is cut into 5 equal pieces. The length of each piece is

- A. 75 cm
- B. 3 cm
- C. 15 cm
- D. 7.5 cm

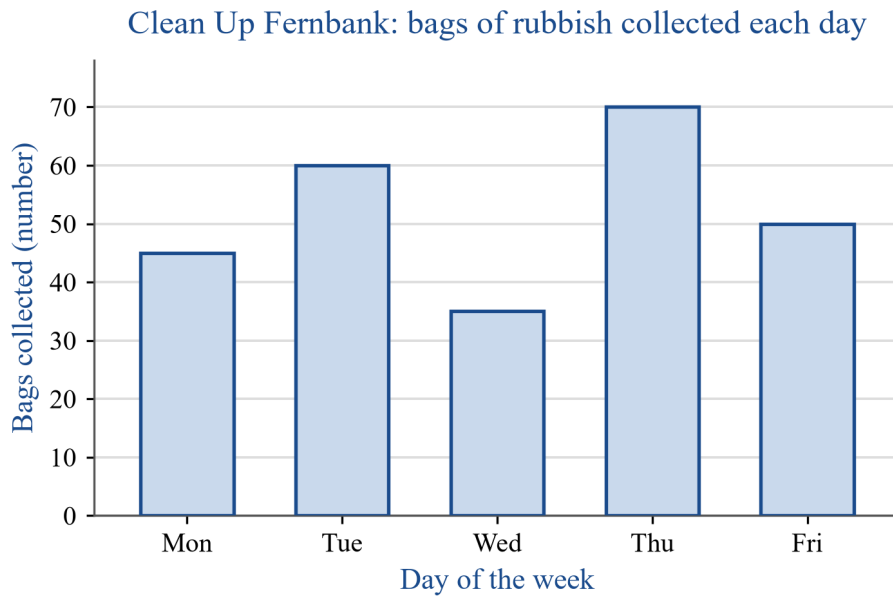
Question 10

The Op Shop shelf held 12 boxes of donated books in the morning. 3 more boxes arrived after lunch. The number of boxes on the shelf now is

- A. 15
- B. 9
- C. 16
- D. 12

Questions 11–14

The bar graph shows how many bags of rubbish were collected on each day of Clean Up Fernbank week.



Question 11

How many bags were collected on Wednesday?

- A. 30
- B. 40
- C. 35
- D. 45

Question 12

How many more bags were collected on Thursday than on Tuesday?

- A. 5
- B. 25
- C. 130
- D. 10

Question 13

How many bags were collected over the whole week?

- A. 210
- B. 260
- C. 250
- D. 270

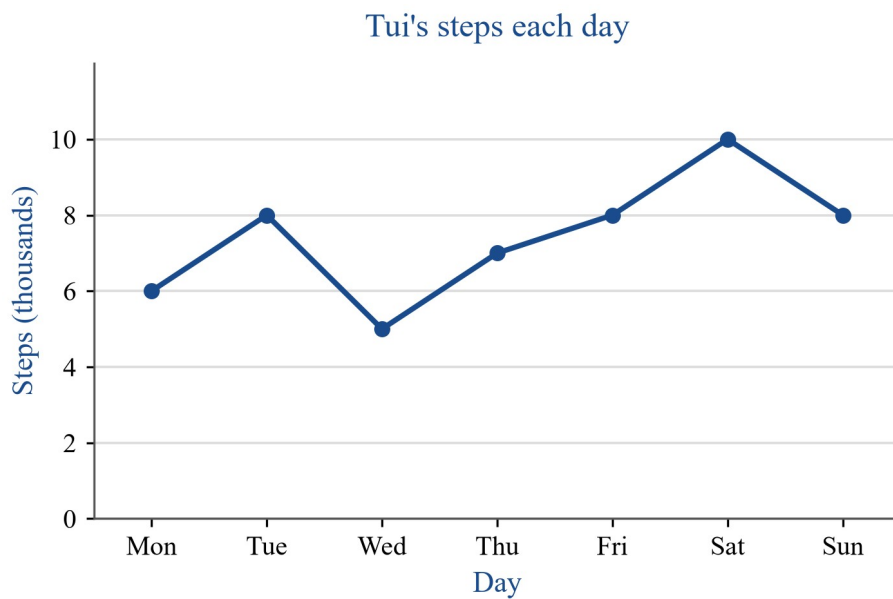
Question 14

What is the mean number of bags collected per day over the five days?

- A. 52
- B. 50
- C. 70
- D. 260

Questions 15–18

Tui wears a step counter. The line graph shows Tui's steps on each day of one week. The vertical axis counts steps in thousands.



Question 15

On which day did Tui walk the fewest steps?

- A. Wednesday
- B. Monday
- C. Friday
- D. Saturday

Question 16

From Wednesday to Saturday, Tui's steps

- A. fell each day
- B. rose, then fell
- C. rose each day
- D. stayed the same

Question 17

The mean of Tui's steps per day over the week, in thousands of steps, correct to 1 decimal place, is

- A. 7.5
- B. 7.4
- C. 8
- D. 52

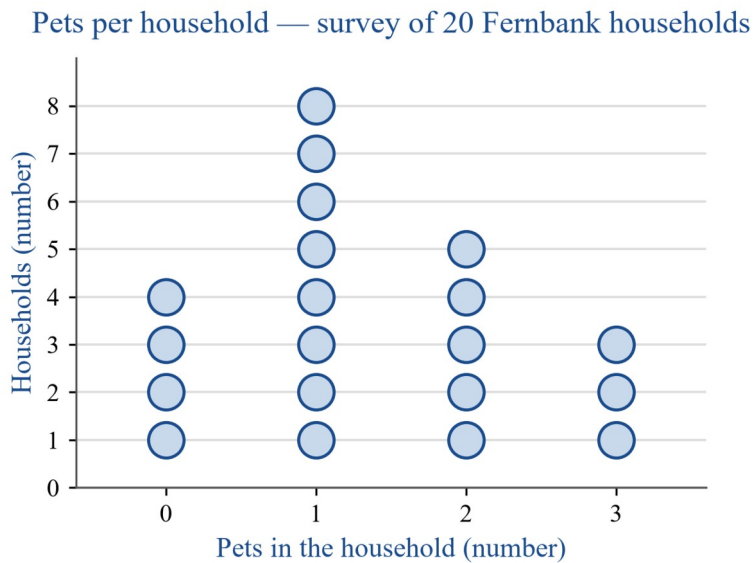
Question 18

The range of Tui's steps over the week, in thousands of steps, is

- A. 3
- B. 8
- C. 10
- D. 5

Questions 19–21

A survey asked 20 Fernbank households how many pets live in each household. The dot plot shows the results.



Question 19

How many households have exactly 1 pet?

- A. 8
- B. 1
- C. 5
- D. 20

Question 20

The mean number of pets per household, correct to 2 decimal places, is

- A. 1.5
- B. 27
- C. 1.35
- D. 20

Question 21

The range of the number of pets per household is

- A. 0
- B. 8
- C. 20
- D. 3

Question 22

Ted counts the people coming into the fete tent with tally marks. His sheet shows 3 full gates and 4 extra strokes. How many people did Ted count?

- A. 12
- B. 19
- C. 17
- D. 34

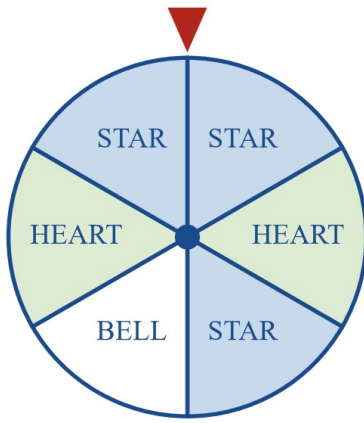
Question 23

A stall at the fete counts its sales each day, and the tallest bar on its bar graph will be 56. Using the scale rule from this book (the smallest step that keeps the axis to ten numbers or fewer), the vertical axis of that bar graph should use

- A. steps of 10, top number 60
- B. steps of 5, top number 60
- C. steps of 10, top number 56
- D. steps of 10, top number 70

Questions 24–27

The fete at Fernbank runs a spinner game. The spinner has 6 equal sections: 3 marked STAR, 2 marked HEART and 1 marked BELL. The spinner is spun once and the pointer lands on one section.



Question 24

The probability of spinning STAR, as a fraction in simplest form, is

- A. $\frac{1}{3}$
- B. $\frac{2}{3}$
- C. $\frac{3}{6}$
- D. $\frac{1}{2}$

Question 25

The probability of spinning BELL, written as a percentage to the nearest whole number, is

- A. 6 %
- B. 16 %
- C. 17 %
- D. 20 %

Question 26

The probability of not spinning HEART, as a fraction in simplest form, is

- A. $\frac{1}{3}$
- B. $\frac{2}{3}$
- C. $\frac{4}{6}$
- D. $\frac{1}{6}$

Question 27

Which chance word best describes spinning HEART on one spin?

- A. unlikely
- B. impossible
- C. even chance
- D. likely

Questions 28–29

A standard die with faces numbered 1 to 6 is rolled once.

Question 28

The sample space for the roll is

- A. $\{1, 2, 3, 4, 5\}$
- B. $\{2, 4, 6\}$
- C. heads, tails
- D. $\{1, 2, 3, 4, 5, 6\}$

Question 29

Which event has a probability of $\frac{1}{2}$?

- A. rolling a 6
- B. rolling a number greater than 4
- C. rolling an odd number
- D. rolling a number less than 3

Question 30

A weather app shows the chance of rain at Fernbank tomorrow as 3 in 10. Written as a decimal, this chance is

- A. 0.03
- B. 0.3
- C. 0.7
- D. 3

Question 31

The app shows Saturday's chance of rain as 7 in 10. Written as a percentage, this chance is

- A. 70 %
- B. 7 %
- C. 30 %
- D. 100 %

Question 32

A game at the fete is called fair when each player has an even chance of winning. An even chance written as a decimal is

- A. 0.05
- B. 0.2
- C. 5
- D. 0.5

Question 33

A raffle barrel at the fete holds 250 tickets, and 5 of them win a prize. The chance of winning a prize, as a fraction in simplest form, is

- A. $\frac{1}{5}$
- B. $\frac{1}{250}$
- C. $\frac{1}{50}$
- D. $\frac{1}{245}$

Question 34

The app shows Sunday's chance of rain as 3 in 10. Written as a percentage, this chance is

- A. 3 %
- B. 30 %
- C. 10 %
- D. 33 %

Question 35

A fete spinner has 6 equal sections: 3 marked STAR, 2 marked HEART and 1 marked BELL. Which single change makes spinning STAR more likely than it is now?

- A. Repaint the BELL section so it says STAR
- B. Repaint one STAR section so it says HEART
- C. Repaint one HEART section so it says BELL
- D. Add two blank sections to the spinner

Question 36

At the fete, Game A gives a $\frac{1}{4}$ chance of winning a prize and Game B gives a 0.3 chance of winning a prize. Which game gives the better chance of a prize?

- A. Game A, because $\frac{1}{4}$ is equal to 0.4
- B. Game B, because $\frac{1}{4} = 0.25$ and 0.25 is less than 0.3
- C. Both games give the same chance of winning a prize
- D. A fraction and a decimal cannot be compared

Questions 37–39

Route 3 runs from Fernbank Station to the clinic. Every service takes the same time. The timetable shows the times on weekdays.

Trip	Fernbank Station	The Clinic
1	08:15	08:35
2	08:45	09:05
3	09:15	09:35
4	09:45	10:05

Question 37

How long does any service take from Fernbank Station to the clinic?

- A. 15 minutes
- B. 30 minutes
- C. 20 minutes
- D. 50 minutes

Question 38

Wai must be at the clinic by 09:40. The latest service she can catch from Fernbank Station is

- A. the 08:45 service
- B. the 09:15 service
- C. the 09:05 service
- D. the 09:45 service

Question 39

A service leaves Fernbank Station at 10:15. This service arrives at the clinic at

- A. 10:30
- B. 10:45
- C. 11:15
- D. 10:35

Questions 40–42

Lagi's work roster for the week lists these shifts. His contract caps his week at 28 hours.

Day	Shift (hours)
Monday	5.5
Tuesday	7
Wednesday	5.5
Thursday	7
Friday	4

Question 40

The total of Lagi's shifts for the week is

- A. 29 hours
- B. 28 hours
- C. 30 hours
- D. 24.5 hours

Question 41

How many hours over the cap is the roster?

- A. 0
- B. 2
- C. 1
- D. 29

Question 42

Lagi must change exactly one shift so that his week totals exactly the 28-hour cap. Which change works?

- A. Cut the Monday shift to 5 hours
- B. Cut the Thursday shift to 6.5 hours
- C. Cut the Friday shift to 2 hours
- D. Cut the Tuesday shift to 6 hours

Questions 43–45

Lagi's weekly budget lists these costs, and his weekly income is \$760.

Item	Per week
Rent	\$305
Groceries	\$190
Phone	\$35
Transport	\$60

Question 43

Lagi's total costs per week are

- A. \$530
- B. \$590
- C. \$555
- D. \$1350

Question 44

The money left from Lagi's income after these costs is

- A. \$170
- B. \$160
- C. \$590
- D. \$1350

Question 45

Lagi wants at least \$200 left each week after his costs. What is the smallest cut to his total costs that gets him there?

- A. \$20
- B. \$200
- C. \$30
- D. \$40

Questions 46–47

The grocery shelf in Fernbank lists these packs. The unit price decides which pack is the better value.

Question 46

A 400 g pack of oats costs \$3.60. The price of the oats per kilogram is

- A. \$1.44
- B. \$3.60
- C. \$90.00
- D. \$9.00

Question 47

Rice is sold in a 2 kg pack for \$5.20 and a 5 kg pack for \$12.00. Which pack is the better value, and why?

- A. the 2 kg bag, at \$2.60 per kg
- B. the 5 kg bag, at \$2.40 per kg
- C. the 2 kg bag, because \$5.20 is less than \$12.00
- D. the 5 kg bag, because \$12.00 is more than \$5.20

Question 48

A delivery docket lists four customer names: Walsh, Nair, Vance and Tang. Which list puts the names in alphabetical order?

- A. Tang, Walsh, Nair, Vance
- B. Vance, Nair, Walsh, Tang
- C. Walsh, Nair, Vance, Tang
- D. Nair, Tang, Vance, Walsh

Question 49

Four parcels on the docket weigh 480 g, 1.2 kg, 950 g and 750 g. Listed from heaviest to lightest, the parcels are

- A. 1.2 kg, 950 g, 750 g, 480 g
- B. 480 g, 1.2 kg, 950 g, 750 g
- C. 480 g, 750 g, 950 g, 1.2 kg
- D. 750 g, 480 g, 1.2 kg, 950 g

Question 50

Parking at the Fernbank market costs a \$2.50 entry fee plus \$3.00 for each hour. Ted parks for 4 hours. The total parking cost is

- A. \$12.00
- B. \$14.00
- C. \$14.50
- D. \$22.00

End of Practice Set 2

Note for teachers. The answers and fully-worked solutions for both GAT Section A numeracy practice sets in this chapter are here: 8A (Practice set 1) and 8B (Practice set 2). These practice sets **complement, and never replace**, the school-assessed coursework that each school designs, runs and signs off as the student's own work. If any task here is adapted for school assessment, the study design's authentication rule applies (see its sections on flexible delivery and satisfactory completion): if a student uses a task to show one of the outcomes of a VCE Vocational Major unit, that task cannot be used again as evidence for a different unit or study — not for another VCE Vocational Major unit, a VCE study, a VET unit of competency or a Victorian Pathways Certificate unit.

Source: VCAA, VCE Vocational Major Numeracy Study Design, retrieved 2026-10-14.

*This section carries the answers and fully-worked solutions for the two GAT Section A numeracy practice sets in this chapter: Practice set 1 (8A) and Practice set 2 (8B), with 50 multiple-choice questions each. Where a question asked for a rounded answer, the question stated the precision, and the working here restates that precision at the rounding step; full precision is carried through the working, and rounding happens only where the question says to. As each practice set states, every name, place, business, price and data set here is **made up** (not real) — built for this book so that you can practise the mathematics.*

Practice set 1 (8A) — Answers

Multiple choice (1 mark each)

Questions

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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Answers	C	B	A	B	D	C	D	A	B	C	D	A	C	B	A	A	D	C	B	D	B	C	C	A	B
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Questions

Question	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
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Answers	D	A	C	B	D	C	A	D	C	B	A	D	C	B	A	C	B	D	A	C	B	D	A	D	B
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Practice set 1 (8A) — Fully-worked solutions

Question	Answer	Working
1	C	Meat pies: $3 \times \$5.20 = \$15.60$. Veggie pies: $2 \times \$4.60 = \$9.20$. Total = $\$15.60 + \$9.20 = \$24.80$ (exact — no rounding needed). Option A adds one of each price once (\$9.80); option B buys two of each.
2	B	Change = $\$50.00 - \$24.80 = \$25.20$ (exact). Option A is the cost of the pies, not the change; option D adds instead of subtracting.
3	A	$8 \times \$5.20 = \$41.60$, and \$41.60 is closest to \$40. Option B is the price of one pie; option D is ten times too big.
4	B	A grid reference is written letter first, then number. The pool is in column C, row 4, so its grid reference is C4. Option A reverses the order; options C and D are the wrong squares.
5	D	From the school (B3) to the pool

Question	Answer	Working
		(C4) is 1 block east and 1 block south. Equal parts east and south is south-east.
6	C	The walk from the bakery to the library is 4 blocks along the streets, and each block is 100 m, so the shortest distance is $4 \times 100 = 400$ m.
7	D	13:50 is after midday. Subtract 12 from the hour: $13 - 12 = 1$, so it is 1:50 pm. Option A is am; option C keeps the 24-hour hour.
8	A	Any trip runs 07:10 to 07:50, which is 40 minutes end to end (check: trip 4 runs 13:50 to 14:30, also 40 minutes). Option B is one leg only; option D is the whole-day gap.
9	B	Trip 1 arrives 07:50 (in time), trip 2 arrives 08:50 (in time) and trip 3 arrives 10:00 (too late). The latest trip that arrives by 09:00 is trip 2, which leaves Kiambla Shops at 08:10.
10	C	Mean = total $\div$ count $= (8 + 11 + 9 + 14 + 10 + 8) \div 6 = 60 \div 6$ (exact). Option D is the total; option B is the highest value.
11	D	Range = highest – lowest $= 14 - 8 = 6$. Option A is the highest value; option C adds the two.
12	A	The mean is 10, so “more goals than the mean” means more than 10. The scores 11 and 14 are the only two above 10, so the answer is 2 games.
13	C	Friday’s point sits exactly halfway between the 60 and 80 gridlines, so it reads 70 visitors.
14	B	Wednesday reads 80 and Thursday reads 40, so visitors fell by $80 - 40 = 40$. Option A has the wrong direction; option C halves the fall.
15	A	The line rises from Monday (40) to Wednesday (80), falls on Thursday (40), then rises again to its highest on Saturday (100). Only option A matches that shape.
16	A	Weighted total $= (4 \times 2) + (5 \times 5) + (6 \times 4) + (7 \times 3)$ buses over 15 hours. Mean

Question	Answer	Working
		$= 86 \div 15 = 5.7$ correct to 1 decimal place (the next digit is 3, so it rounds down). Option D is the total; option C is the number of hours.
17	D	Range = highest – lowest $= 8 - 4 = 4$ buses. Option A is the weighted total; option B is the number of hours; option C is the highest value.
18	C	There are 3 WIN sections out of 8 equal sections, so $P(\text{WIN}) = \frac{3}{8}$, already in simplest form. Option B is the count of not-WIN sections over 8; option D uses 5 as the total.
19	B	$\frac{3}{8} = 3 \div 8 = 0.375 = 37.5\%$. Option A misplaces the decimal point; option D is the percentage for not-WIN.
20	D	After repainting one LOSE as WIN there are $3 + 1 = 4$ WIN sections out of 8, so $P(\text{WIN}) = \frac{4}{8} = \frac{1}{2}$ in simplest form. Option B is $\frac{4}{8}$ before simplifying; option C is the wrong simplification.
21	B	$P(\text{win}) = \frac{4}{20} = \frac{1}{5}$ in simplest form. Option A is the unsimplified fraction; option D is the chance of not winning.
22	C	$\frac{1}{5} = 0.2 = 20\%$. Option A reads the 4 winning tickets as a percent; option B is 5 in 20.
23	C	An 85 % chance is close to certain but not guaranteed, so the best word is likely. Certain would be 100 %; unlikely and even chance both sit far below 85 %.
24	A	The bag holds only tickets numbered 1 to 10, so a ticket numbered 15 cannot be drawn — the event is impossible.
25	B	A fair game gives both players the same chance. On a standard die, even (2, 4, 6) and odd (1, 3, 5) are

Question	Answer	Working
		each 3 of 6, so both players have $\frac{1}{2}$.
26	D	Options A and D are 5-3 splits; option C is 3 red against 7 blue. The multiples of 3 between 1 and 8 are 3 and 6, so the favourable outcomes are $\{3, 6\}$. Option C includes 9, which is not on the spinner; option B lists the even numbers.
27	A	$P(\text{multiple of } 3) = \frac{2}{8} = \frac{1}{4}$ in simplest form. Option B is unsimplified; option D counts three outcomes.
28	C	Every section (1 to 8) is less than 9, so the event always happens — it is certain.
29	B	From 16:30 to 21:00 is 4 hours 30 minutes (16:30 to 20:30 is 4 hours, then 30 minutes to 21:00). Option A miscounts the minutes; option C adds an hour.
30	D	16:30 is after midday; $16 - 12 = 4$, so it is 4:30 pm. Option C is am; option A reads the hour as 6.
31	C	Friday is 4.5 hours and Saturday is 5 hours, so total = 9.5 hours. Pay = $9.5 \times \$22.45 = \$213.275$, which is \$213.28 correct to the nearest cent (the third decimal is 5, so round up). Option B truncates instead of rounding; option D misplaces the decimal.
32	A	The three jobs take $50 + 25 + 45 = 120$ minutes = 2 hours. Counting back 2 hours from 18:00 gives a latest start of 16:00. Option D adds 2 hours forward instead.
33	D	$11 \times \$2.60 = \$28.60$ (fits in \$30) but $12 \times \$2.60 = \$31.20$ (over budget), so the greatest whole number of cups is 11. Option B is the un-rounded quotient; option C rounds up.
34	C	Collecting the cake removes the \$12 delivery charge, so the total falls by \$12. Every other option adds cost: extra servings, a two-tier upgrade, or

Question	Answer	Working
35	B	extra icing all increase the total. Actual length = map length $\times$ scale $= 8 \times 200 = 1600$ m. Option A adds 8 and 200; option C uses half the scale.
36	A	$1600 \div 1000 = 1.6$ km. Option B multiplies instead of dividing; option C moves the decimal the wrong way.
37	D	Clockwise from west goes to north, so a quarter turn (90°) clockwise from west faces north. Option A (south) is a quarter turn anticlockwise.
38	C	From the 12 to the 6 is half a turn, and half of 360° is 180° . Option B is a quarter turn; option D is a full turn.
39	B	A full turn is 360° , and 4 equal slices each take $360 \div 4 = 90^\circ$. Option A is an eighth of a turn; option C is half a turn.
40	A	The length is the difference of the two marks: $68 - 15 = 53$ cm. Option B reads the far mark only; option D adds the two marks.
41	C	To go from kg to g, multiply by 1000: $3.2 \times 1000 = 3200$ g. Option B divides by 10; option D multiplies by 10 000.
42	B	Music is 25 % of the 240 students: $240 \times 0.25 = 60$. Option A is 10 %; option D is 50 %.
43	D	Sport is 50 % ($240 \times 0.50 = 120$) and Art is 15 % ($240 \times 0.15 = 36$). The difference is $120 - 36 = 84$. Option A subtracts the percentages, not the counts; option B is the Art count; option C is the Sport count.
44	A	A pie chart shows each category's share of one whole, which is exactly what the school wants. A line graph shows change over time; a dot plot and a frequency table show counts, not shares of a whole.
45	C	"Type of pie" (meat, veggie, chicken) is a label, not a number, so it is categorical data. Counted data and measured data are both numerical.
46	B	Each full gate is 5, so 4 gates are

Question	Answer	Working
		$4 \times 5 = 20$, plus 3 extra strokes = 23 visitors. Option A counts a gate as 1; option D reads the digits 4 and 3 side by side.
47	D	Primary data is collected first-hand by the person using it. Counting and tallying the customers walking into a stall is primary; the other three are all read from reports, websites or listings (secondary data).
48	A	Cell D3 holds $=B3 \times C3$, so it shows $\text{weight} \times \text{rate} = 4.5 \times 6.20 = \$27.90$. Option B is D2 (\$12.40); option C adds weight and rate; option D is the total in D5.
49	D	Cell D5 holds $=\text{SUM}(D2:D4)$, so it adds the three costs: $\$12.40 + \$27.90 + \$7.44 = \$47.74$. Option A is only D3; option B adds D2 and D3 only.
50	B	The trip uses 8 L per 100 km, and $350 \div 100 = 3.5$ hundreds of km, so $\text{fuel} = 3.5 \times 8 = 28$ L. Option A divides instead of multiplying; option D adds 350 and 8.

Practice set 2 (8B) — Answers

Multiple choice (1 mark each)

Questions

n	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5
A	B	C	A	D	B	A	C	D	B	A	C	D	B	A	A	C	B	D	A	C	D	B	A	D	C

Answers

Questions

o	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	
n	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
A	B	A	D	C	B	A	D	C	B	A	B	C	B	D	A	C	D	B	A	C	D	B	D	A	C

Answers

Practice set 2 (8B) — Fully-worked solutions

Question	Answer	Working
1	B	A grid reference is written letter first, then number. The Noodle Pot is in column B, row 4, so its grid reference is B4. Option A reverses the order; options C and D are the wrong squares.
2	C	From the town hall (C3) to the park (D2) is 1 block east and 1 block north. Equal parts east and north is north-east.
3	A	Starting at the Two Trees Café (A1) and moving 2 blocks east (A to C) and 1 block south (row 1 to row 2) reaches C2, which is the vet.
4	D	The Op Shop (A3) and the clinic (E3) are on the same row, 4 blocks apart along the streets, and each block is 150 m, so the distance is $4 \times 150 = 600$ m. Option A is 2 blocks; option B is 3 blocks.
5	B	A 45° clockwise turn from north points halfway between north and east, which is north-east. Option C

Question	Answer	Working
		(east) would be a 90° turn.
6	A	A 360° turn is a full circle, so Rangi ends facing the same direction she started — north.
7	C	A 180° clockwise turn from east is a half-turn, which faces the opposite direction — west.
8	D	Total rope = $5 \times 4.5 = 22.5$ m. Option C moves the decimal one place; option A adds the two numbers; option B is half of one length.
9	B	Each piece = $15 \div 5 = 3$ cm. Option A multiplies ($15 \times 5 = 75$); option D is half of 15.
10	A	The shelf held 12 boxes and 3 more arrived: $12 + 3 = 15$ boxes. Option B subtracts; option D is the starting number.
11	C	The Wednesday bar reaches 35 bags. Options A and B are 5 below and above the bar top; option D is Monday's value.
12	D	Thursday is 70 bags and Tuesday is 60 bags, so Thursday collected $70 - 60 = 10$ more. Option C adds the two; option A is half the gap.
13	B	Total = $45 + 60 + 35 + 70 + 50 = 260$ bags. Option A drops a day; option C is a mis-add.
14	A	Mean = $260 \div 5 = 52$ bags per day (exact). Option B rounds to 50; option D is the total.
15	A	The lowest point on the line is Wednesday at 5 thousand steps. Option D (Saturday) is the highest.
16	C	From Wednesday (5) to Saturday (10) the line climbs each day: 5, 7, 8, 10. So the steps rose each day. Option B would need a fall, which does not happen in this stretch.
17	B	Total = $6 + 8 + 5 + 7 + 8 + 10 + 8 = 52$ thousand steps over 7 days. Mean = $52 \div 7 = 7.4$ correct to 1 decimal place (the next digit is 2, so it rounds down). Option D is the total; option A rounds the wrong way.
18	D	Range = highest – lowest

Question	Answer	Working
		$= 10 - 5 = 5$ thousand steps. Option C is the highest value; option B is a single day.
19	A	The dot plot stacks 8 dots above “1 pet”, so 8 households have exactly 1 pet. Option D is the total number of households.
20	C	Total pets $= (0 \times 4) + (1 \times 8) + (2 \times 5) + (3 \times 3)$ pets over 20 households. Mean $= 27 \div 20 = 1.35$, which is exactly 1.35 correct to 2 decimal places. Option B is the total; option D is the number of households.
21	D	Range = highest – lowest $= 3 - 0 = 3$ pets. Option C is the number of households; option B is the count with 1 pet.
22	B	Each full gate is 5, so 3 gates are $3 \times 5 = 15$, plus 4 extra strokes = 19 people. Option A counts a gate as 4; option D reads the digits side by side.
23	A	The rule is the smallest step that keeps the axis to ten numbers or fewer. Steps of 10 to a top of 60 give 7 numbers (0, 10, 20, 30, 40, 50, 60), which fits, and 60 is the first multiple of 10 that covers the tallest bar (56). Steps of 5 would need 13 numbers, too many. So the axis uses steps of 10, top number 60.
24	D	There are 3 STAR sections out of 6 equal sections, so $P(\text{STAR}) = \frac{3}{6} = \frac{1}{2}$ in simplest form. Option C is the unsimplified fraction; option A counts 2 of 6.
25	C	$P(\text{BELL}) = \frac{1}{6}$. As a percentage, $\frac{1}{6} \times 100 = 16.67\%$, which is 17% to the nearest whole number. Option A reads 1 in 6 as a whole percent; option B rounds down.
26	B	Not-HEART means the 4 sections that are not HEART (3 STAR plus 1 BELL), so $P(\text{not HEART}) = \frac{4}{6} = \frac{2}{3}$

Question	Answer	Working
		in simplest form. Option C is unsimplified; option A is the HEART chance.
27	A	HEART is 2 of 6 sections, so $P(\text{HEART}) = \frac{2}{6} = \frac{1}{3}$, which is less than half. That sits between impossible and even chance, so the best word is unlikely.
28	D	A standard die has the six faces 1, 2, 3, 4, 5, 6, so the sample space is {1, 2, 3, 4, 5, 6}. Option A misses the 6; option B is only the even faces; option C is for a coin.
29	C	The odd numbers are 1, 3, 5 — that is 3 of the 6 faces, so $P(\text{odd}) = \frac{3}{6} = \frac{1}{2}$. Option A is $\frac{1}{6}$; option B (greater than 4) is 5 and 6, which is $\frac{2}{6}$; option D (less than 3) is 1 and 2.
30	B	3 in 10 means $\frac{3}{10} = 0.3$ as a decimal. Option A misplaces the decimal point; option C is the complement (7 in 10).
31	A	7 in 10 means $\frac{7}{10} = 0.7 = 70\%$. Option B misses a zero; option C is the complement.
32	D	An even chance is half, which is $\frac{1}{2} = 0.5$ as a decimal. Option B is one-fifth; option A is one-twentieth.
33	C	There are 5 winning tickets out of 250, so $P(\text{win}) = \frac{5}{250} = \frac{1}{50}$ in simplest form. Option B is 1 in 250 (a single ticket); option D uses 250 – 5; option A drops a zero.
34	B	3 in 10 means $\frac{3}{10} = 0.3 = 30\%$. Option D is $\frac{1}{3}$ as a percent; option A misses a zero.
35	A	Repainting the BELL section as STAR makes 4 STAR sections out

Question	Answer	Working
		of 6, so $P(\text{STAR})$ rises from $\frac{3}{6}$ to $\frac{4}{6}$. Option B would cut STAR to 2; option C leaves STAR at 3; option D changes the total to 8 and makes STAR less likely.
36	B	Convert to the same form: $\frac{1}{4} = 0.25$ and Game B is 0.3. Since 0.25 is less than 0.3, Game B gives the better chance. Option A wrongly says $\frac{1}{4} = 0.4$.
37	C	The service leaves at 08:15 and arrives at 08:35, so the trip takes 20 minutes. Every row shows the same 20-minute trip. Option B is the gap between departures.
38	B	Wai must arrive by 09:40. The 09:15 service arrives 09:35 (in time); the next service, 09:45, arrives 10:05 (too late). So the latest service she can catch leaves at 09:15.
39	D	Each service takes 20 minutes, so a 10:15 departure arrives at 10:15 plus 20 minutes = 10:35. Option A adds only 15 minutes.
40	A	Total = $5.5 + 7 + 5.5 + 7 + 4 = 29$ hours. Option B is the cap; option D is a mis-add.
41	C	The roster totals 29 hours and the cap is 28, so it is $29 - 28 = 1$ hour over. Option A would mean the roster fits; option D is the total.
42	D	Lagi must remove exactly 1 hour. Cutting Tuesday from 7 to 6 removes 1 hour, giving $29 - 1 = 28$ hours. Options A and B each remove only half an hour (leaving 28.5); option C removes 2 hours (leaving 27).
43	B	Total costs $= \$305 + \$190 + \$35 + \$60 = \$590$. Option A drops an item; option D adds the income.
44	A	Money left = income – costs $= \$760 - \$590 = \$170$. Option C is the total costs; option D adds income and costs.

Question	Answer	Working
45	C	Lagi has \$170 left but wants at least \$200, so he needs $\$200 - \$170 = \$30$ more, which means cutting his costs by \$30. The smallest cut that reaches the goal is \$30 (giving exactly \$200 left). Option A (\$20) leaves \$190, still short; option D (\$40) works but is bigger than needed; option B is the target, not the cut.
46	D	The pack is 400 g = 0.4 kg, so price per kg = $\$3.60 \div 0.4 = \$9.00$. Option A multiplies by 0.4 instead of dividing; option B is the pack price.
47	B	Price per kg for each pack: the 2 kg pack is $\$5.20 \div 2 = \$2.60$ per kg, and the 5 kg pack is $\$12.00 \div 5 = \$2.40$ per kg. The 5 kg pack is cheaper per kg, so it is the better value. Options C and D compare the total prices, which is not fair when the sizes differ.
48	D	Alphabetical order compares first letters: Nair (N) comes before Tang (T), Tang before Vance (V), and Vance before Walsh (W), so the order is Nair, Tang, Vance, Walsh.
49	A	Convert to the same unit: 1.2 kg = 1200 g. From heaviest to lightest: 1200 g, 950 g, 750 g, 480 g. Option C is lightest to heaviest.
50	C	Total = entry fee + hourly cost = $\$2.50 + (4 \times \$3.00) = \$2.50 + \$12$. Option A is the hourly part alone; option D counts the entry fee per hour.

End of fully-worked solutions