

Mathematics Level 2

Chapter 3 — Measurement

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Measuring and comparing length, capacity and mass with uniform informal units

measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary — VC2M2M01

We can measure things around us. We use the same unit each time, and we count how many fit.

Things you need: connecting cubes, same-size blocks, balance scales, sand, a spoon, a cup, containers (a bottle, a tub and a bucket), a shoe, paper and pencils.

Before we start — what you did last year

Last year you compared things:

- Which is longer? Which is shorter?
- Which holds more? Which holds less?
- Which has more mass? Which has less mass?

You found length by putting the same units end to end. You compared how long things take, using words like days and hours (VC2M1M01, VC2M1M02, VC2M1M03). This chapter uses all of that.

This page helps you remember. It is not new work, and there are no marks for it.

What we learn

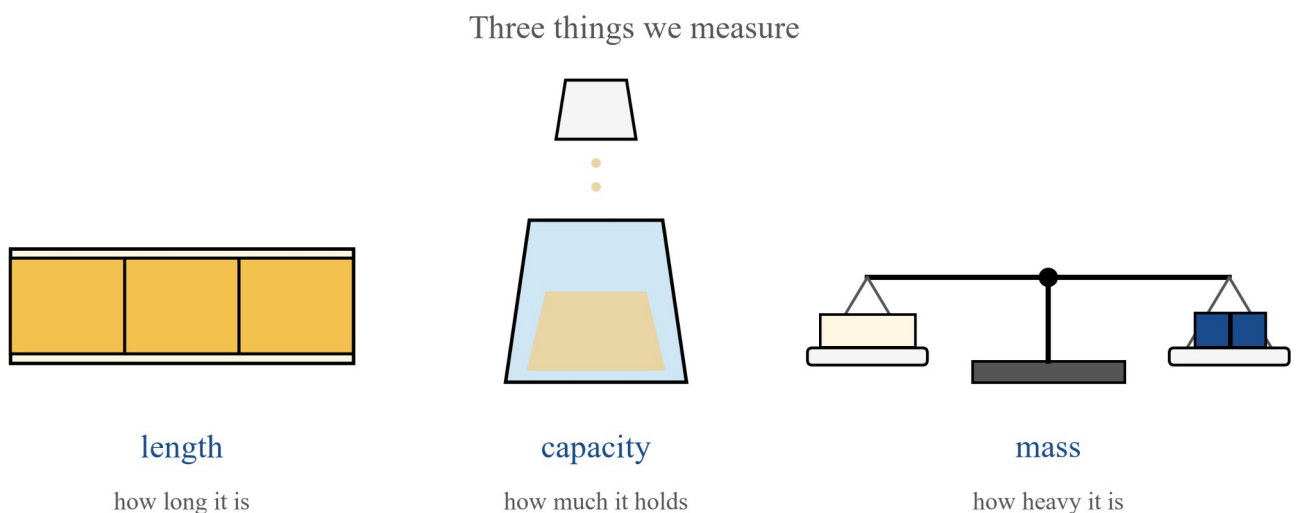
Three things we measure

Length is how long something is. The door has a length. The mat has a length.

Capacity is how much a container can hold. A bucket has a capacity. A bottle has a capacity.

Mass is how heavy something is. We use balance scales to find mass.

We measure length, capacity and mass with units.



Three ways to measure. Blocks along a mat show length. A cup fills a bucket with sand to show capacity. A balance shows mass.

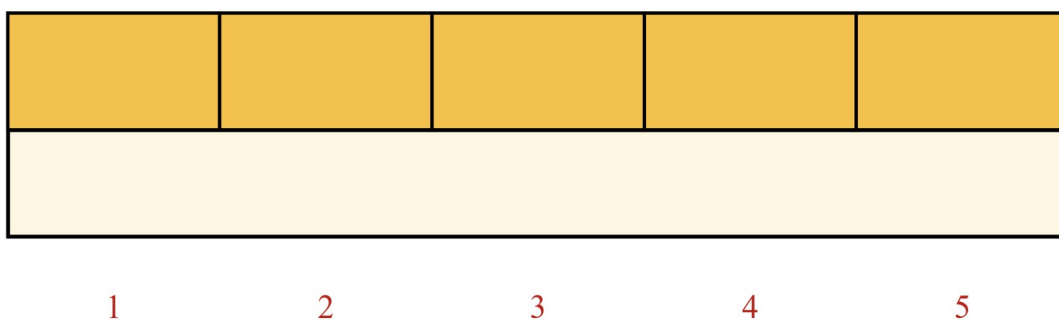
A unit we can count

A **unit** is one thing we use to measure with. One cube is a unit. One spoon of sand is a unit. One step is a unit.

To measure, we count how many units fit.

This mat is 5 blocks long. That means 5 blocks fit along the mat.

The mat is 5 blocks long



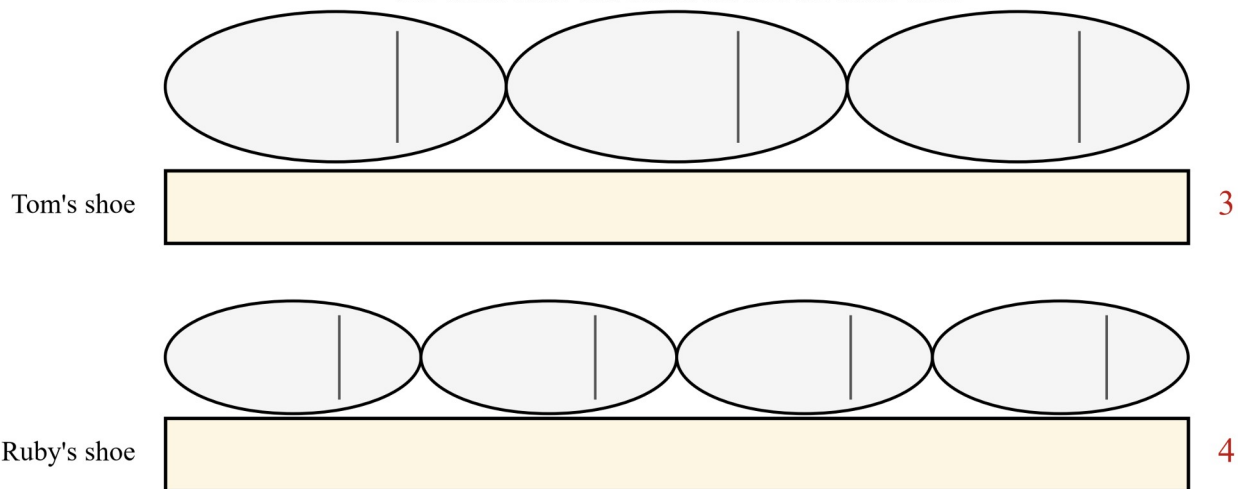
A mat with 5 same-size blocks along it, counted 1 to 5.

The units must be the same

Uniform means the same each time. Our units must be uniform. They must be the same size and the same shape.

Tom measures the mat with shoes. He uses his shoe and Ruby's shoe. But the two shoes are not the same size. The counts do not match. Our units must all be the same size. Then the count is fair.

The same mat. The shoes are not the same size.



The same mat with 3 of Tom's shoes, and the same mat with 4 of Ruby's shoes. The shoes are not the same size.

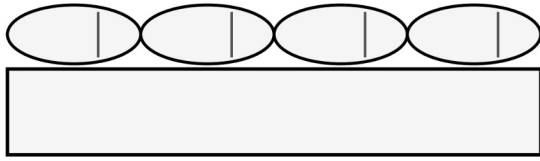
Make a good choice

Pick a unit that fits the job.

- Long things need a long unit. Measure the length of the room in steps.
- Small things need a small unit. Measure a crayon in cubes.

A good unit keeps the count easy.

Long things need a long unit. Small things need a small unit.



steps for the room



cubes for the crayon

Steps along the length of the room, and cubes along a crayon.

Smaller units, more units

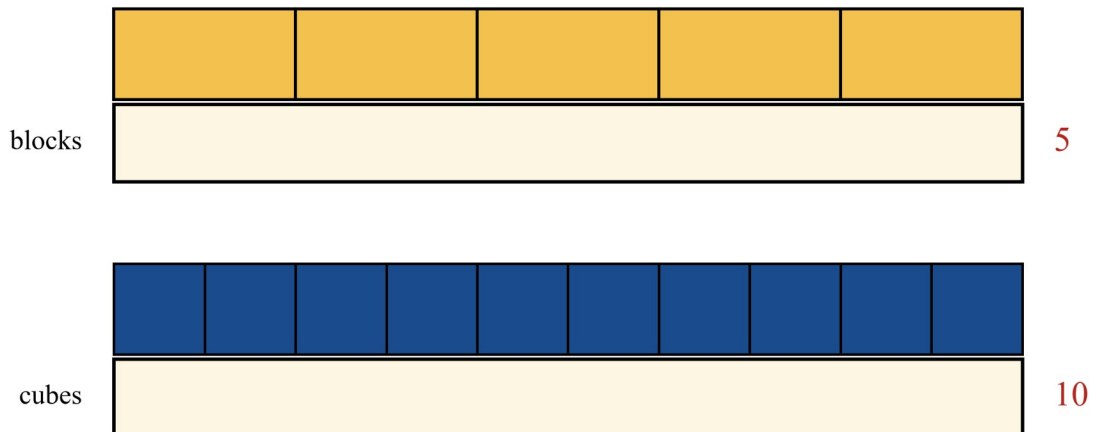
We can measure the same thing with different units.

The mat is 5 blocks long. The same mat is 10 cubes long.

The cubes are smaller than the blocks, so more of them fit.

A smaller unit means more units fit. A big unit means not as many units fit. The mat did not change. Only the unit changed.

The mat did not change. Only the unit changed.



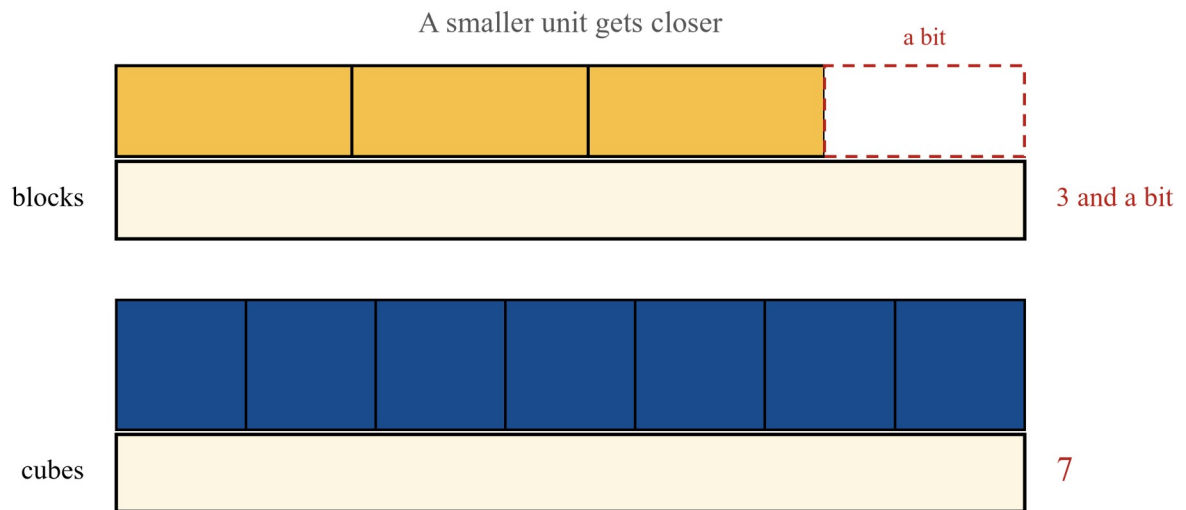
The same mat two ways: 5 blocks along it, and 10 cubes along it.

Getting very close

Sometimes we need to know very close to the real amount. Then a big unit is not good, because a big unit can leave a bit that we cannot count.

A smaller unit gets us closer.

This book is 3 blocks and a bit long. The bit left over is hard to see with blocks. In cubes, the book is 7 cubes long. The cubes get closer to the real amount.



The same book two ways: 3 blocks and a bit, and 7 cubes.

Ask: do I need to be very close? If yes, use a smaller unit. If no, a big unit will do.

We try together

Do these with your teacher. Use things to touch, or look at the dots here.

We try 1 — measure the mat two ways

Measure the reading mat with blocks. Then measure it with cubes.

Working

Note

Put the blocks in a line along the mat. Start at one end.
The blocks touch, with no spaces.

All the blocks are the same size. They are uniform.

Count the blocks: 1, 2, 3, 4, 5.

The mat is 5 blocks long.

Now use cubes. A cube is smaller than a block.

Guess: will there be more cubes, or not as many?

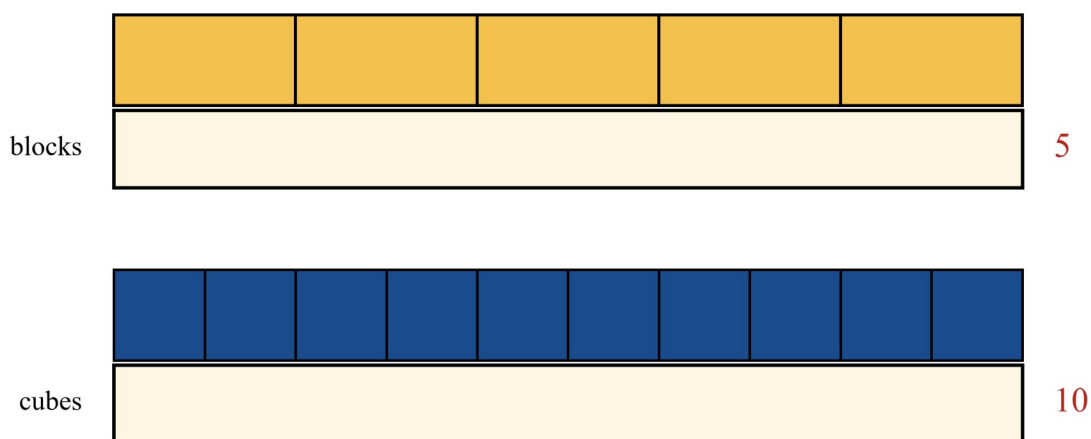
Count the cubes along the mat: 10 cubes.

A smaller unit means more units fit.

Blocks: ● ● ● ● ● → 5

Cubes: ● ● ● ● ● ● ● ● ● ● → 10

The mat did not change. Only the unit changed.



The same mat two ways: 5 blocks along it, and 10 cubes along it.

∴ The mat is 5 blocks long, or 10 cubes long. The mat did not change. Only the unit changed.

We try 2 — sand and scales

Part a — capacity. Which holds more, the bottle or the tub? Use sand and one spoon.

Working

Fill the bottle with sand. Count the spoons: 8 spoons.

Fill the tub with sand. Use the same spoon. Count the spoons: 12 spoons.

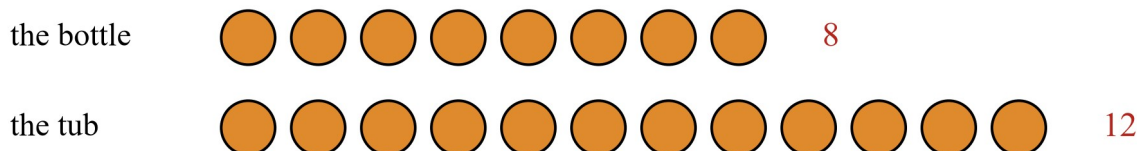
12 is more than 8. $12 - 8 = 4$.

Note

The bottle holds 8 spoons of sand.

The tub holds 12 spoons of sand.

The tub holds 4 spoons more than the bottle.



Two rows of counters. The bottle holds 8 spoons of sand. The tub holds 12 spoons of sand.

Part b — mass. Which is heavier, the book or the pencil case? Use balance scales and same-size cubes.

Working

Put the book on one side of the scales. Add cubes to the other side until the two sides are level.

Count the cubes: 12.

Do the same with the pencil case. Count the cubes: 9.

12 is more than 9. $12 - 9 = 3$.

Note

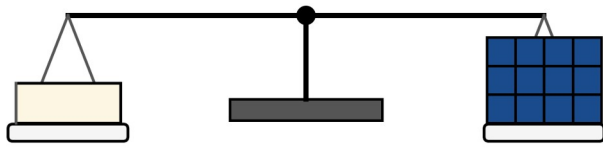
The book has the same mass as the cubes on the other side.

The mass of the book is 12 cubes.

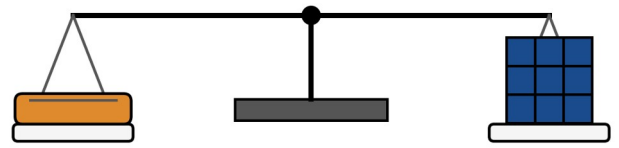
The mass of the pencil case is 9 cubes.

The book is 3 cubes heavier than the pencil case.

The two sides are level.



The mass of the book is 12 cubes.



The mass of the pencil case is 9 cubes.

Two balance scales, both level. The book has the same mass as 12 cubes. The pencil case has the same mass as 9 cubes.

Why must every cube be the same? A big cube and a small cube do not have the same mass. The count works only when all the units have the same mass.

∴ The tub holds more than the bottle, and the book is heavier than the pencil case.

Questions to practise

With help

Q1. Write the better unit.

- The length of the classroom: steps or cubes?
- The length of a crayon: steps or cubes?
- The capacity of a bucket: spoons or cups?
- The capacity of a small bottle: spoons or cups?

Q2. Fill the gaps. Use the words in the box.

box: length · capacity · mass · unit · uniform

- How long something is: its ☐.
- How much a container can hold: its ☐.
- How heavy something is: its ☐.
- One thing we measure with: a ☐.
- The same each time: ☐.

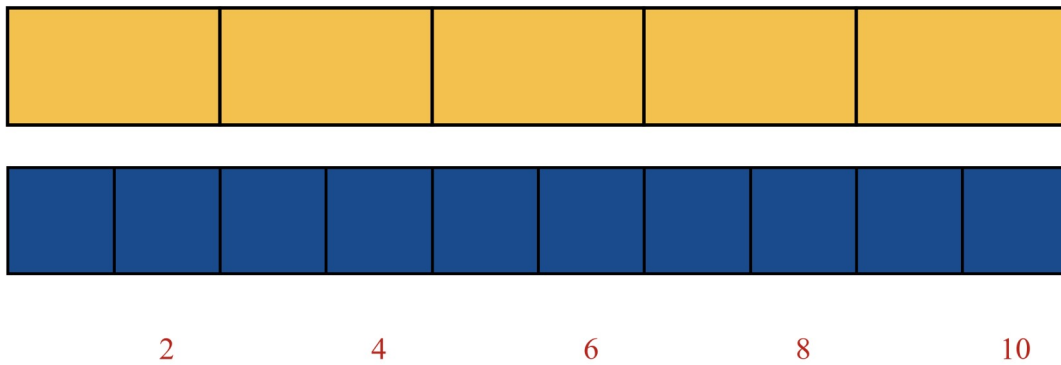
Q3. Count the units.

- Ruby puts cubes along her pencil. She counts 6 cubes. The pencil is ☐ cubes long.
- Each ● is one cube. ● ● ● ● ● ● ● ● The strip of paper is ☐ cubes long.

Q4. The mat is 5 blocks long. Two cubes fit along each block.

- Count by 2 for the 5 blocks: 2, 4, ☐, ☐, ☐.
- $2 + 2 + 2 + 2 + 2 = \square$. The mat is ☐ cubes long.

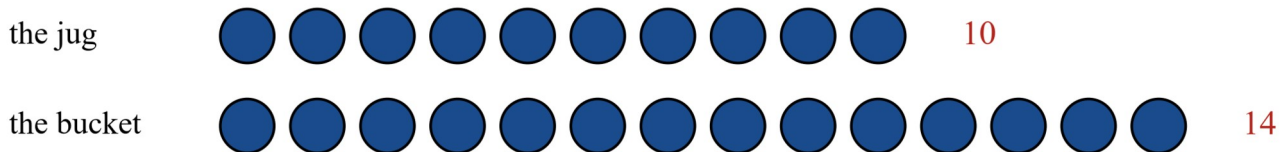
Two cubes fit along each block.



Five blocks in a row, and ten cubes in a row below. Two cubes fit along each block. Count by 2: 2, 4, 6, 8, 10.

Q5. The jug holds 10 cups of water. The bucket holds 14 cups of water.

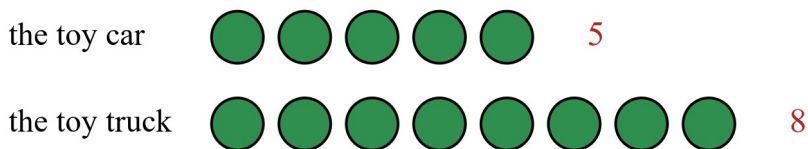
- Which holds more?
- How much more? cups. Write the number sentence.



Two rows of counters. The jug holds 10 cups of water. The bucket holds 14 cups of water.

Q6. The toy car has the same mass as 5 counters. The toy truck has the same mass as 8 counters.

- Which is heavier?
- How much heavier? counters.



Two rows of counters. The toy car has the same mass as 5 counters. The toy truck has the same mass as 8 counters.

On your own

Q7. Write the better unit.

- The length of a shoe: cubes or steps?
- The length of a football ground: cubes or steps?
- The capacity of a cup: spoons or buckets?
- The capacity of a pool: cups or buckets?

- e. The mass of a feather: counters or big blocks?
- f. The mass of a school bag full of books: counters or big blocks?

Q8. Tom measures the hall with his shoe. Dad measures the same hall with his shoe. They get different numbers. Why?

Q9. Ruby uses one shoe to measure the rug. She counts 6 shoes. Would the number of cubes be more than 6 or less than 6? Why?

Q10. The shelf is 12 cubes long. The desk is 17 cubes long.

- a. Which is longer?
- b. How much longer? Write the number sentence.

Q11. The bottle holds 6 cups. The jug holds 4 cups more than the bottle. How much does the jug hold? Write the number sentence.

Q12. The toy rabbit has a mass of 7 cubes. The toy dinosaur has a mass of 12 cubes.

- a. Which is heavier?
- b. How much heavier? Write the number sentence.

Q13. Sam measures the table in blocks. It is 5 blocks and a bit long. The blocks are too big to show the little bit left over. What should Sam do to get a closer count?

Q14. Measure three things in your room. Use the same unit for all three. The units must touch.

- a. Write each thing, and how many units it is.
- b. Which is the longest? Which is the shortest?

Maths in real life

Q15. A day at the MCG

The Melbourne Cricket Ground (the MCG) is a real sports ground in Melbourne. The AFL Grand Final is played there.

Source: Melbourne Cricket Ground, mcg.org.au, retrieved 2026-08-19. Source: Wikipedia, "Melbourne Cricket Ground", retrieved 2026-08-19.

The numbers in this story are small ones, chosen for Year 2.

Ruby and Tom go to the MCG with their class. They measure with steps.

- a. Ruby walks from the gate to the big doors. She counts 30 steps. How long is the walk in Ruby's steps?
- b. Tom's steps are shorter than Ruby's steps. Tom walks the same way. Does he count more than 30 steps, or less than 30 steps? Why?
- c. Their teacher walks the same way and counts her steps too. Her number is not 30. Why not?
- d. The field at the MCG is very long. Would cubes be a good unit for the long way across the field? Why not? What unit would be better?

Answers

Q1. a. steps b. cubes c. cups d. spoons.

Q2. a. length b. capacity c. mass d. unit e. uniform.

Q3. a. 6 b. 9.

Q4. a. 6, 8, 10 b. 10, 10.

Q5. a. The bucket. b. 4 cups; $14 - 10 = 4$.

Q6. a. The toy truck. b. 3 counters; $8 - 5 = 3$.

Q7. a. cubes b. steps c. spoons d. buckets e. counters f. big blocks.

Q8. Tom's shoe and Dad's shoe are not the same size. The units are not uniform, so the counts are different.

Q9. More than 6. A cube is smaller than a shoe, so more cubes fit.

Q10. a. The desk. b. 5 cubes; $17 - 12 = 5$.

Q11. 10 cups; $6 + 4 = 10$.

Q12. a. The toy dinosaur. b. 5 cubes; $12 - 7 = 5$.

Q13. Use a smaller unit, like cubes. A smaller unit gets closer to the real amount.

Q14. Answers will be different. Check that the same unit was used each time, that the units touched, and that the count is right.

Q15. a. 30 steps. b. More than 30 steps; Tom's steps are smaller, and a smaller unit means more units. c. Her steps are not the same length as Ruby's steps; a different unit gives a different count. d. No; the field is very long, so it would take too many cubes to count. Steps are longer, so steps are a better unit.

All the working

Q1. The classroom is long, so steps are better. A crayon is small, so cubes are better. A bucket is big, so cups are better. A small bottle needs a small unit, so spoons are better.

∴ a. steps b. cubes c. cups d. spoons.

Q2. Length is how long something is. Capacity is how much a container can hold. Mass is how heavy something is. A unit is one thing we measure with. Uniform means the same each time.

∴ a. length b. capacity c. mass d. unit e. uniform.

Q3. a. Ruby counts 6 cubes along the pencil. b. Count the dots: there are 9 cubes.

∴ a. 6 b. 9.

Q4. Two cubes fit along each block. 5 blocks is 5 groups of 2 cubes. Count by 2: 2, 4, 6, 8, 10. The number sentence is $2 + 2 + 2 + 2 + 2 = 10$. This matches We try 1: the mat is 10 cubes long.

∴ The mat is 10 cubes long.

Q5. 14 is more than 10, so the bucket holds more. $14 - 10 = 4$.

∴ The bucket holds 4 cups more than the jug.

Q6. 8 is more than 5, so the toy truck is heavier. $8 - 5 = 3$.

∴ The toy truck is 3 counters heavier than the toy car.

Q7. A shoe is small, so cubes are better. A football ground is long, so steps are better. A cup is small, so spoons are better. A pool is very big, so buckets are better. A feather is very light, so counters are better. A school bag full of books is heavy, so big blocks are better.

∴ a. cubes b. steps c. spoons d. buckets e. counters f. big blocks.

Q8. Tom's shoe and Dad's shoe are not the same size. Units must be uniform. Different shoes give different counts for the same hall.

∴ The units are not the same size, so the counts are different.

Q9. A cube is smaller than a shoe. A smaller unit means more units fit. So the number of cubes is more than 6.

∴ More than 6 cubes.

Q10. 17 is more than 12, so the desk is longer. $17 - 12 = 5$.

∴ The desk is 5 cubes longer than the shelf.

Q11. The jug holds 4 cups more than the bottle. $6 + 4 = 10$.

∴ The jug holds 10 cups.

Q12. 12 is more than 7, so the toy dinosaur is heavier. $12 - 7 = 5$.

∴ The toy dinosaur is 5 cubes heavier than the toy rabbit.

Q13. The blocks are too big for the little bit left over. Sam should use a smaller unit, like cubes. A smaller unit gets closer to the real amount.

∴ Use cubes, a smaller unit.

Q14. Answers will be different. The same unit must be used for all three things. The units must touch, with no spaces. The count must be right. The longest and the shortest follow from the three counts.

Q15. a. Ruby counts 30 steps, so the walk is 30 steps long. b. Tom's steps are smaller than Ruby's steps. A smaller unit means more units, so Tom counts more than 30 steps. c. The teacher's steps are a different length from Ruby's steps. A different unit gives a different count. d. The field is very long, and cubes are small. It would take too many cubes to count. Steps are longer than cubes, so steps are a better unit for something that long.

∴ a. 30 steps b. more than 30 steps c. her steps are a different length d. no; steps are better.

Calendars: finding a date and counting the days between events

identify the date and determine the number of days between events using calendars — VC2M2M03

Take your time. A calendar is a good helper. Look at it each day, and soon you will know your way around the year.

Things you need: a 2026 wall calendar, counters, a pencil and paper.

What we learn

What a calendar shows

A calendar shows the days of a year. It puts them into weeks and months.

Here is the month of August in the year 2026.

Monday	Tuesday	Wednesd ay	Thursday	Friday	Saturday	Sunday
					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	26	27	28	29	30
31						

The names of the days go across the top. The numbers of the dates go down under them. Each row is one week.

August 2026

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					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	26	27	28	29	30
31						

1 week

The August 2026 calendar. The week rows are shaded blue in turn, and a red line on the right shows one row is 1 week.

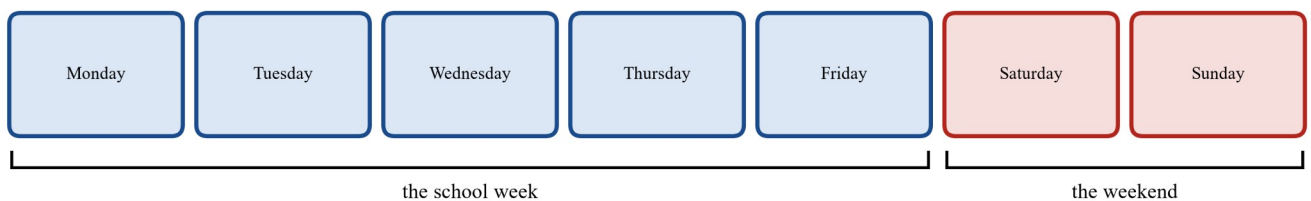
August is a winter month in Victoria.

The days of the week

There are 7 days in a week. Here they are, in order:

Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

Monday to Friday is the school week. Saturday and Sunday are the weekend.



Seven day cards in a row. Monday to Friday are blue: they are the school week. Saturday and Sunday are red: they are the weekend.

The day before today is yesterday. The day after today is tomorrow.

The months of the year

There are 12 months in a year. Here they are, in order:

January, February, March, April, May, June, July, August, September, October, November, December

Months have 30 or 31 days. February is the short month. In 2026, February has 28 days.

Days in the month	Months
31	January, March, May, July, August, October, December
30	April, June, September, November
28	February (in 2026)



Twelve month cards. Each card shows the name of the month and how many days it has. February is the short month, with 28 days.

There are 365 days in 2026.

The seasons in Victoria: December, January and February are summer. March, April and May are autumn. June, July and August are winter. September, October and November are spring.

How to find a date

To find a date on the calendar:

- 1. Find the month.
- 2. Find the number of the day.
- 3. Look up to the top to see the day name.

Look: find Friday 14 August 2026. On the August calendar, find 14. Look up to the top. 14 August is a Friday.

August 2026

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					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	26	27	28	29	30
31						

The August 2026 calendar. The number 14 is circled in red, and a red arrow goes up from 14 to Friday at the top.

Weeks

A week is 7 days. The same day of the week comes every 7 days.

Look: Tuesday 4 August, Tuesday 11 August, Tuesday 18 August. Each one is 1 week after the one before.

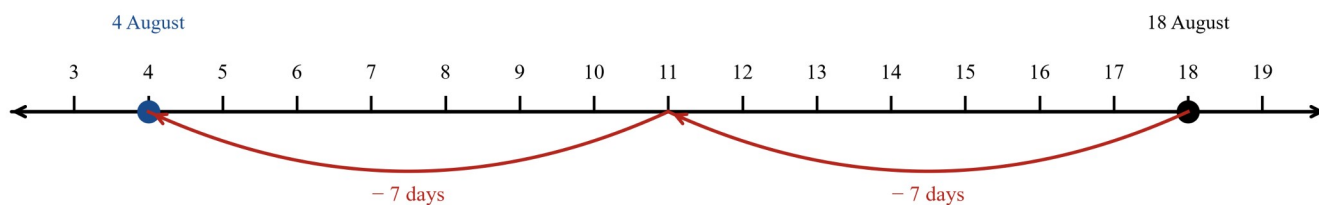
August 2026

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					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	26	27	28	29	30
31						

The August 2026 calendar. The Tuesday dates 4, 11, 18 and 25 are circled in blue, and arrows show 7 days from each one to the next.

2 weeks is 14 days: $7 + 7 = 14$.

A date 2 weeks later is the same day of the week, 14 days on. A date 2 weeks before is the same day of the week, 14 days back.



A number line of the dates in August. Red arrows jump back 7 days from 18 to 11, and 7 days from 11 to 4. Two weeks before Tuesday 18 August is Tuesday 4 August.

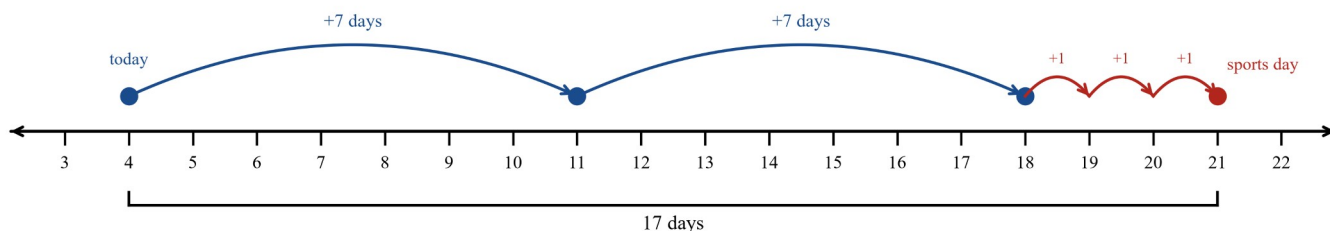
How many days from one date to the next?

Count on from the first date to the next date.

Do not count the first day. Count the days after it, up to the big day.

Two good ways to count:

- Count on 1 day at a time.
- Count on by weeks first, then count the days left.



A number line of the dates in August. Blue jumps of 7 days go from 4 to 11 and from 11 to 18, then red jumps of 1 day go to 21. From 4 August to 21 August is 17 days.

When both dates are in the same month, you can check with subtraction: $21 - 4 = 17$.

When the dates are in two different months, count the days left in the first month, then add the days in the next month.

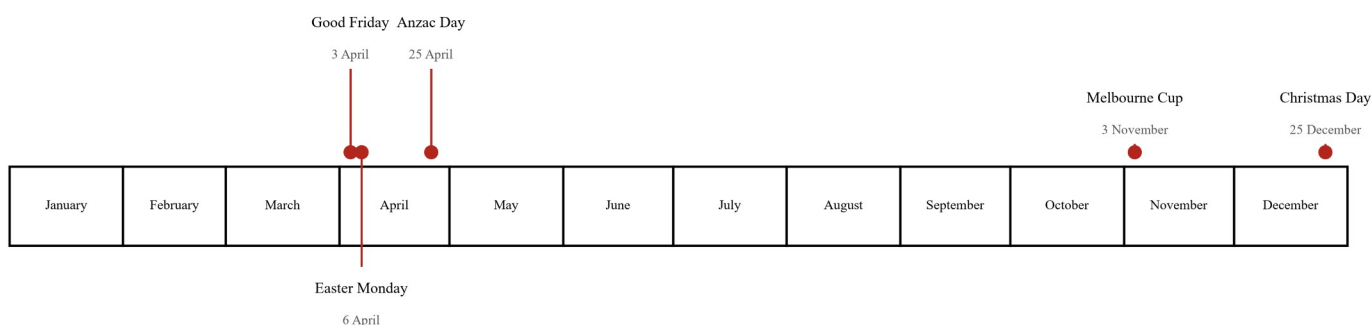
Special days in 2026

Some special days are on the same date every year. Anzac Day is always 25 April. In 2026, Anzac Day is on a Saturday.

Some special days move to new dates each year. Easter is one. In 2026, Good Friday is on 3 April, and Easter Monday is on 6 April.

The Melbourne Cup is a horse race. It is always on the first Tuesday of November. In 2026, that is Tuesday 3 November. Most people in Victoria have a holiday on that day.

Schools in Victoria have 4 terms each year. In 2026, Term 1 ends on Thursday 2 April. Term 4 ends on Friday 18 December, and the long summer holidays start.



The 12 months of 2026 in a line, with the special days: Good Friday on 3 April, Easter Monday on 6 April, Anzac Day on 25 April, the Melbourne Cup on 3 November and Christmas Day on 25 December.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

Source: Department of Education (Victoria), School term dates and holidays Victoria, vic.gov.au, retrieved 2026-08-19.

We try together

Do these with your teacher. Use the wall calendar.

We try 1 — how many days to the big day?

Today is Tuesday 4 August 2026. Sports day is on Friday 21 August 2026. How many days from today to sports day?

Use the August calendar in What we learn.

Working	Note
Find Tuesday 4 August. Circle it.	This is today. We do not count it.
Count on 1 week to Tuesday 11 August.	That is 7 days.
Count on 1 more week to Tuesday 18 August.	$7 + 7 = 14$ days so far.
Count on the days left: Wednesday 19, Thursday 20, Friday 21.	3 more days.
$14 + 3 = 17$	There are 17 days to wait.

Check: both dates are in August, so use subtraction: $21 - 4 = 17$.

$\therefore$ From Tuesday 4 August 2026 to Friday 21 August 2026 there are 17 days.

We try 2 — what date is 2 weeks later?

Today is Wednesday 8 April 2026. Grandma comes to stay 2 weeks after today. What date is that? What day of the week is it?

Use this April calendar.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		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	26
27	28	29	30			

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

Working	Note
Find Wednesday 8 April. Circle it.	This is today.
2 weeks after a Wednesday is a Wednesday.	The day of the week stays the same.
1 week is 7 days: $8 + 7 = 15$.	1 week after is Wednesday 15 April.
1 more week: $15 + 7 = 22$.	2 weeks after is Wednesday 22 April.
Check: find Wednesday 22 April on the calendar.	It is there.

April 2026

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		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	26
27	28	29	30			

The April 2026 calendar. The Wednesday dates 8, 15 and 22 are circled in red, and arrows show 7 days from each one to the next. Two weeks after Wednesday 8 April is Wednesday 22 April.

∴ Grandma comes to stay on Wednesday 22 April 2026.

Questions to practise

With help

Q1. Look at the August 2026 calendar in What we learn.

- What day of the week is 1 August 2026?
- What is the date of the first Monday in August 2026?
- What is the date of the last day of August 2026? What day of the week is it?
- How many Tuesdays are there in August 2026?

Q2. Fill in the missing day names.

- Monday, ☐, Wednesday
- Thursday, ☐, Saturday
- Saturday, ☐, Monday
- ☐, Tuesday, ☐

Q3. Today is Thursday 13 August 2026.

- What day of the week and date was yesterday?
- What day of the week and date is tomorrow?

- c. What day of the week and date is 1 week after today?

Q4. Use the calendar to help you.

- a. The school concert is on Wednesday 12 August 2026. The next concert is 2 weeks later. What date is it? What day of the week is it?
- b. The class picnic is on Friday 21 August 2026. What date is 2 weeks before the picnic? What day of the week is it?

Q5. Today is Monday 3 August 2026. The school assembly is on Monday 10 August 2026. How many days from today to the assembly? Count on the calendar, then check with subtraction.

Q6. Make a class calendar for September 2026.

1 September 2026 is a Tuesday. September has 30 days.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
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- a. Fill in all the dates.
- b. Write in the birthdays of the children in your class.
- c. Write in one thing your class will do in September. Write its date and day too.

On your own

Q7. Look at the April 2026 calendar in We try 2. In 2026, Good Friday is on 3 April, Easter Monday is on 6 April, and Anzac Day is on 25 April.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

- a. Find Good Friday and circle it. What day of the week is it?
- b. Find Easter Monday and circle it. What day of the week is it?
- c. Find Anzac Day. What day of the week is it?
- d. How many days from Good Friday to Anzac Day?

Q8. Write the date and the day of the week.

- a. 2 weeks after Monday 2 November 2026
- b. 2 weeks before Friday 20 November 2026

Q9. The class Christmas party is on Wednesday 9 December 2026. The last day of Term 4 is Friday 18 December 2026. How many days from the party to the last day of school?

Source: Department of Education (Victoria), School term dates and holidays Victoria, vic.gov.au, retrieved 2026-08-19.

Q10. Fill in the table. Use your calendar to help you.

Month	Days in 2026
September	☐
October	☐
November	☐

December



Q11. Today is Monday 24 August 2026. How many days are left in 2026?

- How many days are left in August after today? (Hint: August has 31 days.)
- How many days are in September and October together?
- How many days are in November and December together?
- Add your answers to a, b and c. How many days are left in 2026 after today?

Q12. The Melbourne Cup is always on the first Tuesday of November. In 2026, 1 November is a Sunday.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

- What date is the first Tuesday of November 2026?
- How many days from the Melbourne Cup to the last day of November?

Q13. The last day of Term 1 is Thursday 2 April 2026. Anzac Day is on Saturday 25 April 2026. How many days from the last day of Term 1 to Anzac Day?

Source: Department of Education (Victoria), School term dates and holidays Victoria, vic.gov.au, retrieved 2026-08-19.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

Q14. Play “Guess the date” with a partner.

Things you need: a calendar page, paper, a pencil.

How to play:

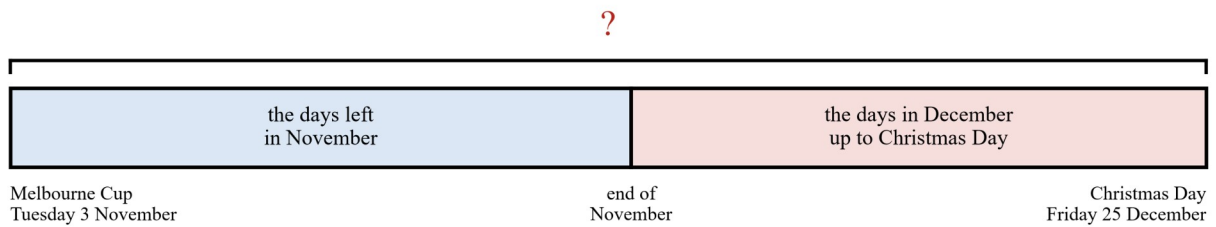
- Player 1 circles a date and does not show Player 2.
- Player 2 asks up to 5 questions, like “Is it a Tuesday?” and “Is it after the 10?”.
- Player 1 answers yes or no.
- Player 2 guesses the date. 1 point for a right guess.
- Swap and play again. The first player to get 5 points wins.

Maths in real life

Q15. From the Melbourne Cup to Christmas

The Melbourne Cup is a big horse race. Most people in Victoria have a holiday on Melbourne Cup Day. In 2026, Melbourne Cup Day is on Tuesday 3 November. Christmas Day is on Friday 25 December 2026. It is in the long summer holidays.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.



A bar from Tuesday 3 November to Friday 25 December. It is split into two parts: the days left in November, and the days in December up to Christmas Day. A question mark asks for the days in all.

- a. How many days are left in November after Melbourne Cup Day? (Hint: November has 30 days.)
- b. How many days from 1 December to Christmas Day?
- c. Add your answers to a and b. How many days from Melbourne Cup Day to Christmas Day?
- d. Count on by weeks from Tuesday 3 November: Tuesday 10 November, Tuesday 17 November, and so on. How many weeks and days is your answer to c?

Answers

Q1. a. Saturday b. 3 August c. Monday 31 August d. 4.

Q2. a. Tuesday b. Friday c. Sunday d. Monday, Wednesday.

Q3. a. Wednesday 12 August 2026 b. Friday 14 August 2026 c. Thursday 20 August 2026.

Q4. a. Wednesday 26 August 2026 b. Friday 7 August 2026.

Q5. 7 days.

Q6. The dates run from Tuesday 1 September to Wednesday 30 September. Birthdays and the class event will be different for each class. Check that each one has a real date and day.

Q7. a. Friday b. Monday c. Saturday d. 22 days.

Q8. a. Monday 16 November 2026 b. Friday 6 November 2026.

Q9. 9 days.

Q10. September 30, October 31, November 30, December 31.

Q11. a. 7 days b. 61 days c. 61 days d. 129 days.

Q12. a. Tuesday 3 November 2026 b. 27 days.

Q13. 23 days.

Q14. Game. Check that each guess names a real date on the page.

Q15. a. 27 days b. 25 days c. 52 days d. 7 weeks and 3 days.

All the working

Q1. Use the August 2026 calendar. a. 1 August is at the top of the Saturday row. b. The first Monday is 3 August. c. The last day is 31 August, on a Monday. d. The Tuesdays are 4, 11, 18 and 25 August. That is 4 Tuesdays.

$\therefore$ a. Saturday b. 3 August c. Monday 31 August d. 4.

Q2. The days of the week in order: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday.

$\therefore$ a. Tuesday b. Friday c. Sunday d. Monday, Wednesday.

Q3. Today is Thursday 13 August 2026. a. The day before is Wednesday 12 August. b. The day after is Friday 14 August. c. 1 week after is the same day of the week: $13 + 7 = 20$, so Thursday 20 August.

$\therefore$ a. Wednesday 12 August 2026 b. Friday 14 August 2026 c. Thursday 20 August 2026.

Q4. a. 2 weeks is 14 days. $12 + 14 = 26$. The day of the week stays the same: Wednesday 26 August 2026. b. Take away 14 days. $21 - 14 = 7$. The day of the week stays the same: Friday 7 August 2026.

$\therefore$ a. Wednesday 26 August 2026 b. Friday 7 August 2026.

Q5. Count on from Monday 3 August to Monday 10 August: that is 7 days. Check: both dates are in August, so subtract: $10 - 3 = 7$.

$\therefore$ 7 days.

Q6. 1 September 2026 is a Tuesday. Write in the dates from 1 to 30. The last day is Wednesday 30 September. Birthdays and class events will be different for each class. Check that each one has a real date and day.

Q7. Use the April 2026 calendar. a. 3 April is on a Friday. b. 6 April is on a Monday. c. 25 April is on a Saturday. d. Both dates are in April, so subtract: $25 - 3 = 22$.

∴ a. Friday b. Monday c. Saturday d. 22 days.

Q8. a. 2 weeks is 14 days. $2 + 14 = 16$. The day of the week stays the same: Monday 16 November 2026. b. Take away 14 days. $20 - 14 = 6$. The day of the week stays the same: Friday 6 November 2026.

∴ a. Monday 16 November 2026 b. Friday 6 November 2026.

Q9. Both dates are in December. Subtract: $18 - 9 = 9$.

∴ 9 days.

Q10. Count the days in each month on the calendar. September has 30 days, October has 31, November has 30, and December has 31.

∴ September 30, October 31, November 30, December 31.

Q11. a. August has 31 days. Days left after Monday 24 August: $31 - 24 = 7$. b. September and October: $30 + 31 = 61$. c. November and December: $30 + 31 = 61$. d. Add all the parts: $7 + 61 = 68$, and $68 + 61 = 129$.

∴ a. 7 days b. 61 days c. 61 days d. 129 days.

Q12. a. 1 November 2026 is a Sunday. Monday is 2 November, so the first Tuesday is 3 November 2026. b. November has 30 days. From 3 November to the last day: $30 - 3 = 27$.

∴ a. Tuesday 3 November 2026 b. 27 days.

Q13. Both dates are in April. Subtract: $25 - 2 = 23$.

∴ 23 days.

Q14. This is a game. Check that each guess names a real date on the page, and that the yes and no answers match the date.

Q15. a. November has 30 days. Days left after Tuesday 3 November: $30 - 3 = 27$. b. From 1 December to Christmas Day on 25 December: 25 days. c. $27 + 25 = 52$. d. Count on by weeks from Tuesday 3 November: Tuesday 10 November, Tuesday 17 November, Tuesday 24 November, Tuesday 1 December, Tuesday 8 December, Tuesday 15 December, Tuesday 22 December. That is 7 weeks. Then Wednesday 23 December, Thursday 24 December, Friday 25 December: 3 more days. So 7 weeks and 3 days. Check: from Tuesday 3 November, 7 weeks on comes to Tuesday 22 December, and 3 more days comes to Friday 25 December.

∴ a. 27 days b. 25 days c. 52 days d. 7 weeks and 3 days.

Reading an analog clock to the hour, half-hour and quarter hour

recognise and read the time represented on an analog clock to the hour, half-hour and quarter hour —
VC2M2M04

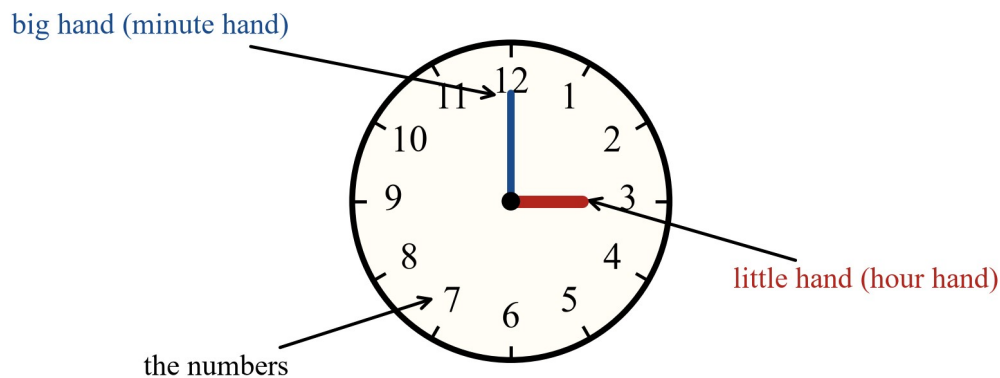
Look at clocks at home and at school. A clock is a good helper, and soon you will know the time all by yourself.

Things you need: a clock with two hands, a paper plate, a piece of card, a split pin, scissors, a pencil.

What we learn

The parts of a clock

A clock tells the time. An analog clock has a face. The numbers 1 to 12 go around the face. It has two hands that turn around the middle.



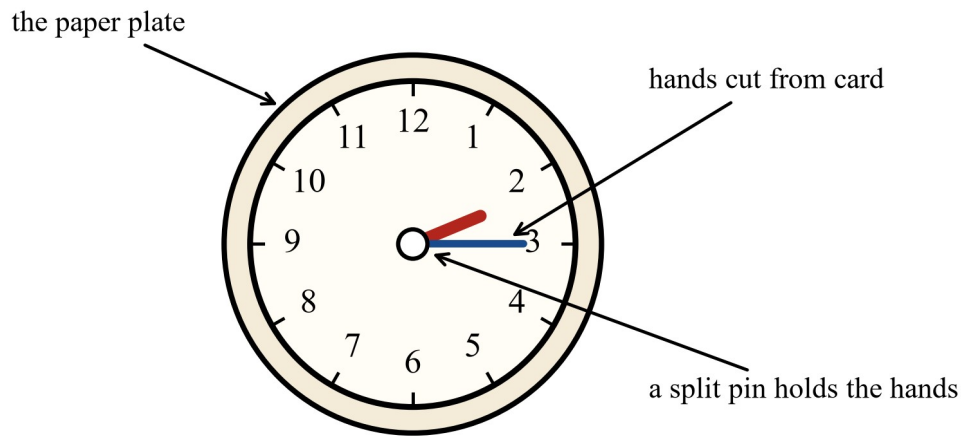
A clock showing 3 o'clock. The long blue hand points to 12. The short red hand points to 3. Labels name the big hand, the minute hand, the little hand, the hour hand and the numbers.

The little hand is the **hour hand**. The big hand is the **minute hand**.

To read the clock, look at both hands. The hour hand tells the hour. The minute hand tells how far around the face we are.

Making a paper-plate clock

You can make your own clock from a paper plate. Write the numbers 1 to 12 around the plate, in the same places as on a real clock. Cut two hands from card. Make the hour hand short and the minute hand long. A split pin holds the hands at the middle, so they can turn.



You can turn the hands to show any time.

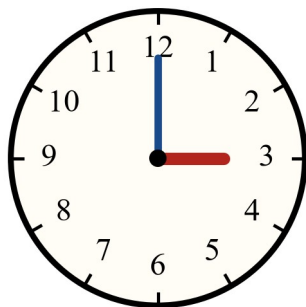
A paper-plate clock showing quarter past 2. Labels name the paper plate, the hands cut from card and the split pin that holds the hands.

The hands turn the way the numbers count: 12, 1, 2, 3, and so on, back to 12.

One hour on the clock

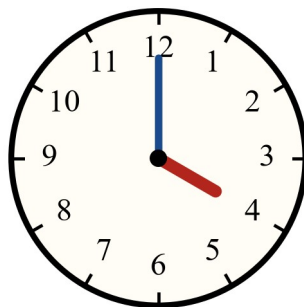
The minute hand takes 1 hour to go all the way around the face. When the minute hand goes all the way around, the hour hand moves from one number to the next number.

Look from clock a to clock b below. The minute hand has gone all the way around. The hour hand has moved from 3 to 4. One hour has gone by.



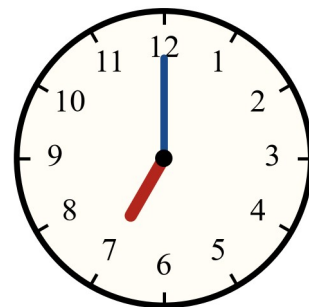
a

3 o'clock



b

4 o'clock



c

7 o'clock

Three clocks. Clock a shows 3 o'clock. Clock b shows 4 o'clock. Clock c shows 7 o'clock.

O'clock

When the minute hand points to 12, we say *o'clock*. The hour hand tells which hour.

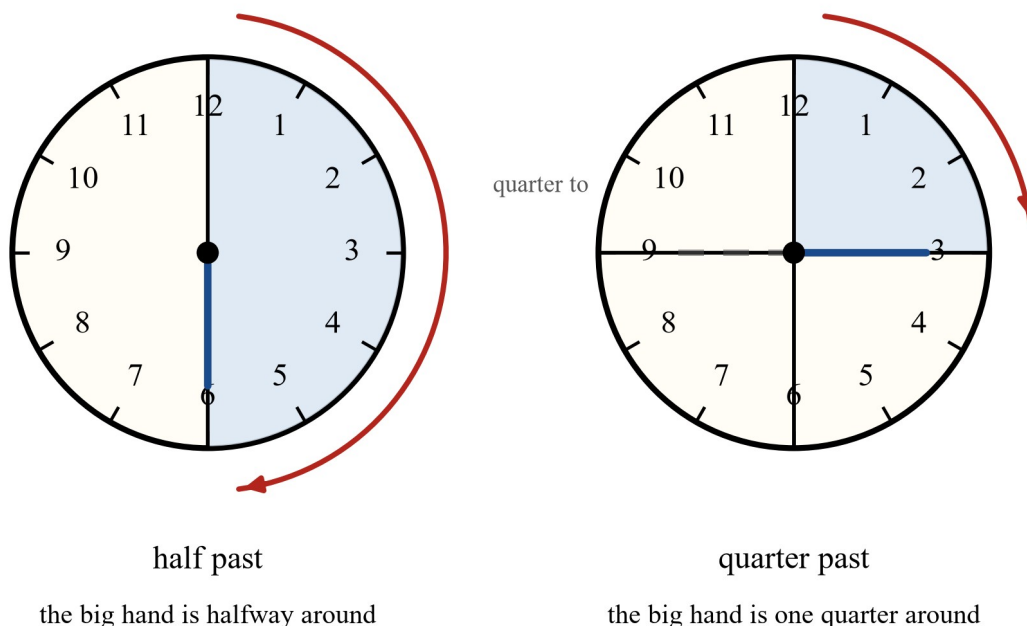
Clock a shows **3 o'clock**. Clock b shows **4 o'clock**. Clock c shows **7 o'clock**.

We write the time with words, like *3 o'clock*. Grown-ups also write 3:00. It is the same time.

Half past

You know halves from folding paper. A half is one of two equal parts. The face can be cut into halves too, with one line from 12 to 6.

When the minute hand has gone halfway around, it points to 6. We say *half past*. **Half past 2** means the minute hand has gone halfway around after 2 o'clock. The hour hand is past the 2, on its way to the 3.



Two clock faces. On the left, the right half of the face is shaded, and a red arrow shows the big hand going halfway around from 12 to 6; the caption says half past. On the right, the face is cut into quarters, the top-right quarter is shaded, and a red arrow shows the big hand going one quarter around from 12 to 3; the caption says quarter past, and another hand at 9 is marked quarter to.

Quarter past and quarter to

You know quarters too. A quarter is one of four equal parts. Cut the face with one line from 12 to 6 and one line from 9 to 3. Now the face has four equal parts.

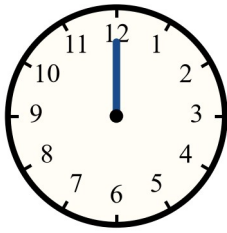
When the minute hand has gone one quarter of the way around, it points to 3. We say *quarter past*. **Quarter past 5** means the minute hand has gone a quarter of the way around after 5 o'clock.

When the minute hand points to 9, one quarter of the way around is left to go. It is nearly the next hour. We say *quarter to*. **Quarter to 4** means 4 o'clock is coming next, when the minute hand goes that last quarter to 12.

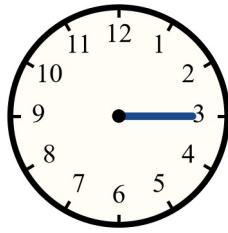
The big hand's four places

Here are the four places the minute hand can be at this level, and what we say.

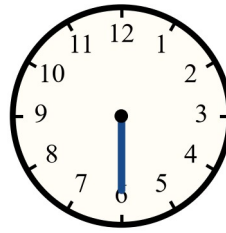
Where is the big hand?



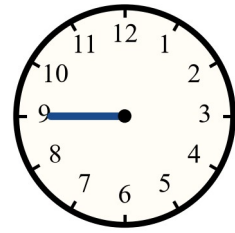
o'clock



quarter past



half past



quarter to

Four clock faces showing where the big hand is. At 12 we say o'clock. At 3 we say quarter past. At 6 we say half past. At 9 we say quarter to.

The minute hand points to

We say

12	o'clock
3	quarter past
6	half past
9	quarter to

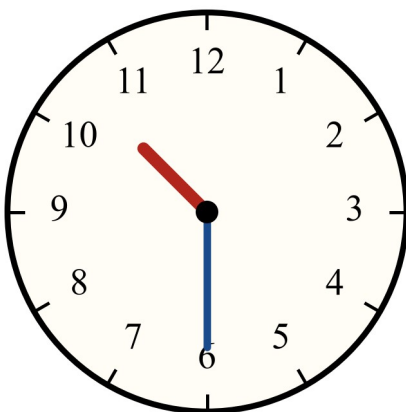
At quarter to, the hour we name is the next hour. Quarter to 6 is close to 6 o'clock. The hour hand is nearly at the 6.

We try together

Do these with your teacher. Use your paper-plate clock.

We try 1 — read this clock

What time does this clock show?



A clock. The long blue hand points to 6. The short red hand is between 10 and 11.

Working

Note

Look at the minute hand, the big hand. It points to 6.

Halfway around the face: half past.

Look at the hour hand, the little hand. It is past the 10 and not yet at the 11.

The hour is still 10.

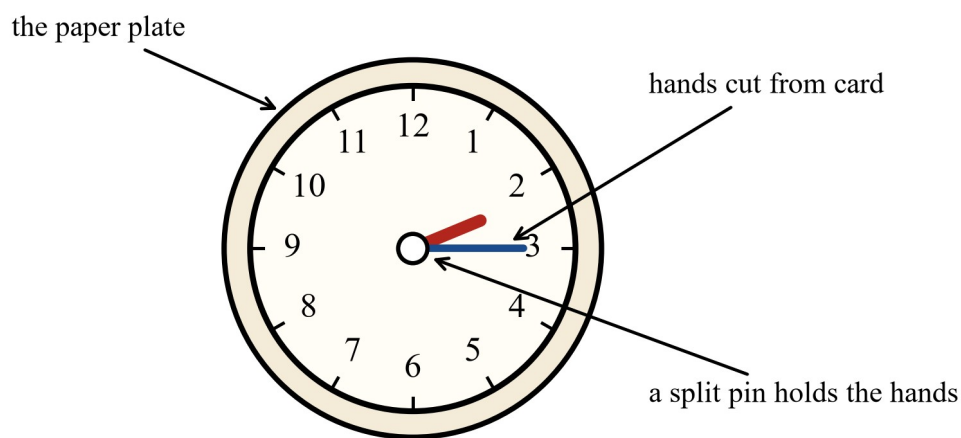
Put the words together: half past 10.

Half past 10.

∴ The clock shows half past 10.

We try 2 — make quarter past 2

Show quarter past 2 on your paper-plate clock.



You can turn the hands to show any time.

A paper-plate clock showing quarter past 2. The short red hand is a little past the 2. The long blue hand points to 3.

Working

Note

Turn the minute hand to the 3.

One quarter of the way around: quarter past.

Turn the hour hand a little past the 2.

The hour is 2.

Check with the picture above.

The hands match.

∴ The clock shows quarter past 2.

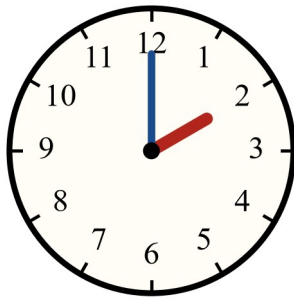
Questions to practise

With help

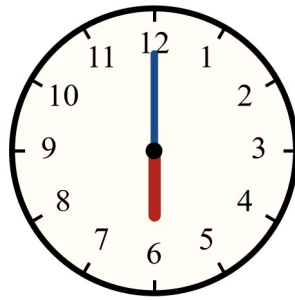
Q1. Look at the clock picture in *The parts of a clock*.

- Point to the hour hand. Is it the little hand or the big hand?
- Point to the minute hand. Is it the little hand or the big hand?
- The numbers on the face start at 1. At which number do they end?

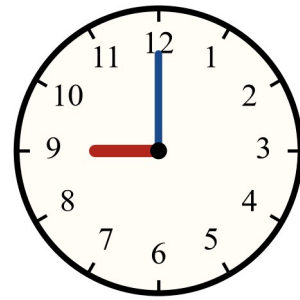
Q2. Write the time on each clock.



a



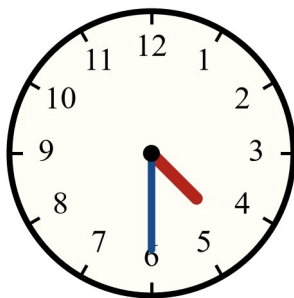
b



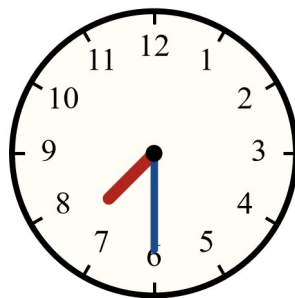
c

Three clocks labelled *a*, *b* and *c*. Clock *a* has the short hand on 2 and the long hand on 12. Clock *b* has the short hand on 6 and the long hand on 12. Clock *c* has the short hand on 9 and the long hand on 12.

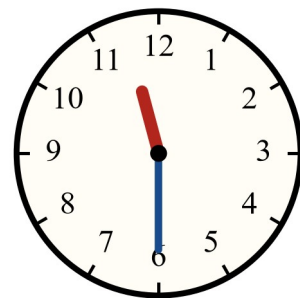
Q3. Write the time on each clock.



a



b

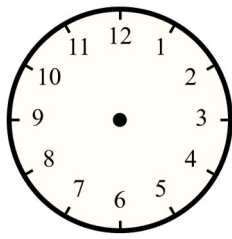


c

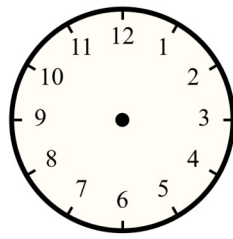
Three clocks labelled *a*, *b* and *c*. On each, the long hand points to 6. On *a* the short hand is between 4 and 5. On *b* the short hand is between 7 and 8. On *c* the short hand is between 11 and 12.

Q4. Use the blank clocks picture. Draw hands on clock *a* and clock *b*.

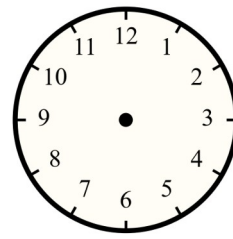
- a. 10 o'clock
- b. half past 2



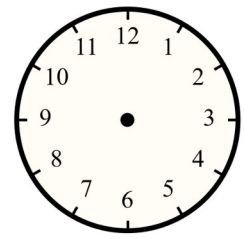
a



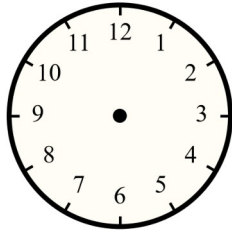
b



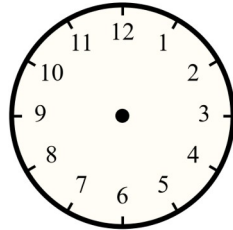
c



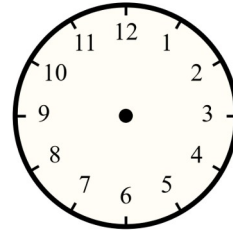
d



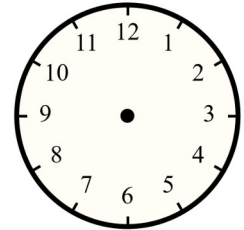
e



f



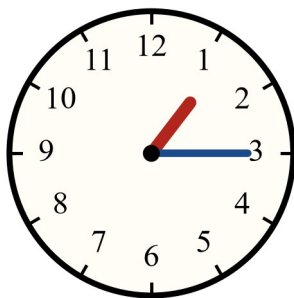
g



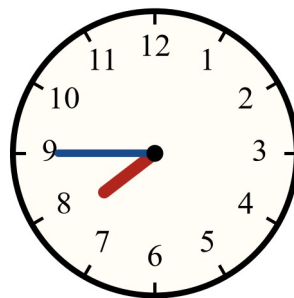
h

Eight blank clock faces labelled a to h. Each face has the numbers 1 to 12 and a dot at the middle, and no hands.

Q5. Look at the clocks.



a

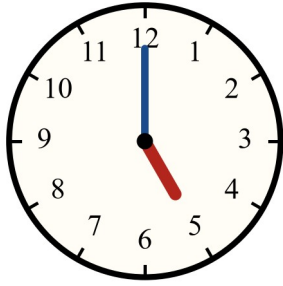


b

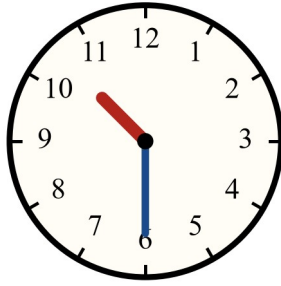
Two clocks labelled a and b. Clock a has the long hand on 3 and the short hand a little past 1. Clock b has the long hand on 9 and the short hand nearly at 8.

- Write the time on clock a.
- Write the time on clock b.
- When it is quarter past, which number does the minute hand point to?

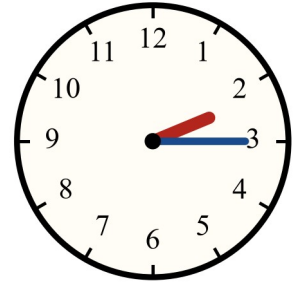
Q6. Draw a line to match each clock to its card.



a



b



c

quarter past 2

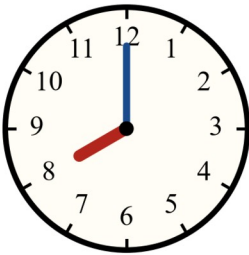
5 o'clock

half past 10

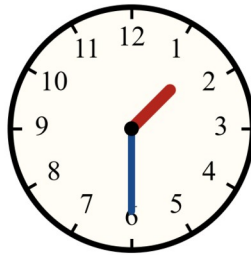
Three clocks labelled a, b and c above three word cards. Clock a shows 5 o'clock. Clock b shows half past 10. Clock c shows quarter past 2. The cards, in order, say quarter past 2, 5 o'clock, and half past 10.

On your own

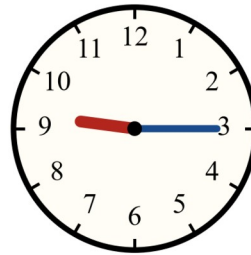
Q7. Write the time on each clock.



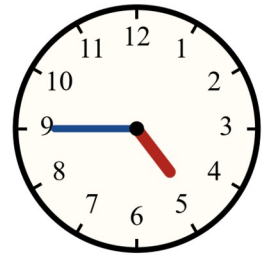
a



b



c



d

Four clocks labelled a, b, c and d. Clock a shows 8 o'clock. Clock b shows half past 1. Clock c shows quarter past 9. Clock d shows quarter to 5.

Q8. Use the blank clocks picture. Draw hands on clocks c, d, e and f.

- c. 6 o'clock
- d. half past 3
- e. quarter past 7
- f. quarter to 2

Q9. Fill in the ☐.

- a. When the minute hand points to 3, we say quarter ☐.
- b. When the minute hand points to 6, we say half ☐.

- c. When the minute hand points to 9, we say quarter $\square$.
- d. Quarter to 5 means the next hour is $\square$ o'clock.

Q10. True or false?

- a. The hour hand is the little hand.
- b. The hour hand goes all the way around the face in 1 hour.
- c. At half past 3, the hour hand is right on the 3.
- d. Quarter to 6 is close to 6 o'clock.

Q11.

- a. The minute hand goes all the way around the face. How long does it take?
- b. It is 7 o'clock. The minute hand goes halfway around. What time is it now?
- c. It is half past 7. The minute hand goes halfway around again. What time is it now?

Q12.

- a. It is quarter to 9. Which number does the minute hand point to?
- b. It is quarter to 9. Which hour is coming next?
- c. It is quarter to 12. Which hour is coming next?

Q13. Play "Show me the time" with a partner.

Things you need: a paper-plate clock, paper, a pencil.

How to play:

1. Player 1 says a time: o'clock, half past, quarter past or quarter to.
2. Player 2 shows that time on the paper-plate clock.
3. Player 1 checks the hands. 1 point for a right show.
4. Swap and play again. The first player to get 5 points wins.

Q14. Use the blank clocks picture.

- a. On clock g, draw one line to cut the face into halves. Colour in one half. When it is half past, which number does the minute hand point to?
- b. On clock h, draw lines to cut the face into quarters. Colour in one quarter. When it is quarter past, which number does the minute hand point to?

Maths in real life

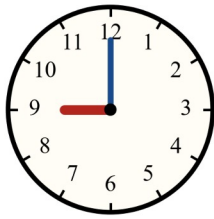
Q15. Melbourne Cup Day with Mia

Melbourne Cup Day is on Tuesday 3 November 2026. Most people in Victoria have a holiday on that day. Mia and her family have a fun day at home and at the beach.

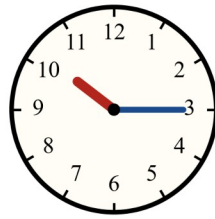
Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

The day goes like this:

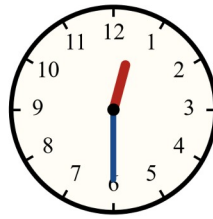
1. The family has breakfast.
2. They walk to the beach at St Kilda.
3. They have lunch at the beach.
4. At home, they have a party and watch the Melbourne Cup.
5. Mia takes the dog to the park.



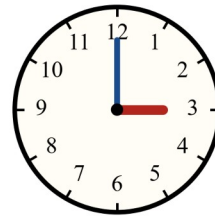
a



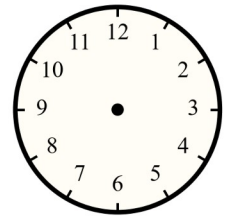
b



c



d



e

Five clock faces labelled a to e. Clock a shows 9 o'clock. Clock b shows quarter past 10. Clock c shows half past 12. Clock d shows 3 o'clock. Clock e is blank, with the numbers and a dot at the middle.

- Write the time on clocks a, b, c and d. Each clock goes with one of the things 1 to 4, in order.
- The last thing happens at quarter to 4. Draw hands on clock e to show quarter to 4.
- Which thing happens first? Which thing happens last?
- Write all five things in order, with their times.

Answers

Q1. a. The little hand. b. The big hand. c. 12.

Q2. a. 2 o'clock b. 6 o'clock c. 9 o'clock.

Q3. a. Half past 4 b. Half past 7 c. Half past 11.

Q4. a. The minute hand on 12, the hour hand on 10. b. The minute hand on 6, the hour hand between 2 and 3.

Q5. a. Quarter past 1 b. Quarter to 8 c. 3.

Q6. a goes with the card "5 o'clock". b goes with the card "half past 10". c goes with the card "quarter past 2".

Q7. a. 8 o'clock b. Half past 1 c. Quarter past 9 d. Quarter to 5.

Q8. c. The minute hand on 12, the hour hand on 6. d. The minute hand on 6, the hour hand between 3 and 4. e. The minute hand on 3, the hour hand a little past 7. f. The minute hand on 9, the hour hand between 1 and 2, nearly at 2.

Q9. a. past b. past c. to d. 5.

Q10. a. True b. False c. False d. True.

Q11. a. 1 hour b. Half past 7 c. 8 o'clock.

Q12. a. 9 b. 9 c. 12.

Q13. Game. Check that each show has the minute hand at 12, 3, 6 or 9 and the hour hand in the right place.

Q14. a. One line from 12 to 6; the minute hand points to 6. b. Lines from 12 to 6 and from 9 to 3; the minute hand points to 3.

Q15. a. a. 9 o'clock b. Quarter past 10 c. Half past 12 d. 3 o'clock. b. The minute hand on 9, the hour hand between 3 and 4. c. Breakfast is first; taking the dog to the park is last. d. 9 o'clock breakfast, quarter past 10 walk to the beach, half past 12 lunch, 3 o'clock the party, quarter to 4 the park.

All the working

Q1. On the picture, the little red hand is the hour hand and the big blue hand is the minute hand. The numbers run from 1 to 12.

∴ a. The little hand. b. The big hand. c. 12.

Q2. The minute hand is at 12 on all three clocks, so they all show o'clock. The hour hand tells which hour: 2, 6 and 9.

∴ a. 2 o'clock b. 6 o'clock c. 9 o'clock.

Q3. The minute hand is at 6 on all three clocks: half past. The hour hand is past the hour it has left: past 4, past 7 and past 11.

∴ a. Half past 4 b. Half past 7 c. Half past 11.

Q4. a. 10 o'clock: minute hand on 12, hour hand on 10. b. Half past 2: minute hand on 6, hour hand between 2 and 3.

Q5. a. The minute hand is at 3: quarter past. The hour hand is a little past 1: quarter past 1. b. The minute hand is at 9: quarter to. The hour hand is nearly at 8: quarter to 8. c. Quarter past: the minute hand points to 3.

∴ a. Quarter past 1 b. Quarter to 8 c. 3.

Q6. Clock a has the minute hand at 12 and the hour hand at 5: 5 o'clock. Clock b has the minute hand at 6 and the hour hand past 10: half past 10. Clock c has the minute hand at 3 and the hour hand a little past 2: quarter past 2. The cards are not in order, so a goes with the second card, b with the third card, and c with the first card.

∴ a → "5 o'clock", b → "half past 10", c → "quarter past 2".

- Q7.** a. Minute hand at 12, hour hand at 8: 8 o'clock. b. Minute hand at 6, hour hand past 1: half past 1. c. Minute hand at 3, hour hand a little past 9: quarter past 9. d. Minute hand at 9, hour hand nearly at 5: quarter to 5.
- ∴ a. 8 o'clock b. Half past 1 c. Quarter past 9 d. Quarter to 5.
- Q8.** c. 6 o'clock: minute hand at 12, hour hand at 6. d. Half past 3: minute hand at 6, hour hand between 3 and 4. e. Quarter past 7: minute hand at 3, hour hand a little past 7. f. Quarter to 2: minute hand at 9, hour hand between 1 and 2, nearly at 2.
- Q9.** From the big hand's four places: 3 is quarter past, 6 is half past, 9 is quarter to. Quarter to 5 names the next hour, 5.
- ∴ a. past b. past c. to d. 5.
- Q10.** a. True: the hour hand is the little hand. b. False: it is the minute hand that goes all the way around in 1 hour; the hour hand moves one number in that time. c. False: at half past 3 the hour hand is between 3 and 4. d. True: quarter to 6 is one quarter of the way around before 6 o'clock.
- ∴ a. True b. False c. False d. True.
- Q11.** a. All the way around is 1 hour for the minute hand. b. Halfway around after 7 o'clock is half past 7. c. Halfway around again is one more half hour: from half past 7 to 8 o'clock.
- ∴ a. 1 hour b. Half past 7 c. 8 o'clock.
- Q12.** a. Quarter to: the minute hand points to 9. b. Quarter to 9 names the next hour: 9. c. Quarter to 12 names the next hour: 12.
- ∴ a. 9 b. 9 c. 12.
- Q13.** This is a game. Check each show: the minute hand must be at 12, 3, 6 or 9, and the hour hand must be in the right place for that time.
- Q14.** a. One line from 12 to 6 cuts the face into two equal halves. At half past the minute hand points to 6, the end of that line. b. Two lines, 12 to 6 and 9 to 3, cut the face into four equal quarters. At quarter past the minute hand points to 3.
- ∴ a. Line 12 to 6; the minute hand points to 6. b. Lines 12 to 6 and 9 to 3; the minute hand points to 3.
- Q15.** a. Clock a: minute hand at 12, hour hand at 9: 9 o'clock, breakfast. Clock b: minute hand at 3, hour hand a little past 10: quarter past 10, the walk. Clock c: minute hand at 6, hour hand past 12: half past 12, lunch. Clock d: minute hand at 12, hour hand at 3: 3 o'clock, the party. b. Quarter to 4: minute hand at 9, hour hand between 3 and 4. c. The first thing is breakfast at 9 o'clock. The last thing is the park at quarter to 4. d. In order: 9 o'clock breakfast; quarter past 10 the walk to the beach; half past 12 lunch; 3 o'clock the party; quarter to 4 the park.
- ∴ a. a. 9 o'clock b. Quarter past 10 c. Half past 12 d. 3 o'clock. b. Minute hand on 9, hour hand between 3 and 4. c. First: breakfast. Last: the park. d. As listed.

Halves, quarters and eighths of shapes, objects and events

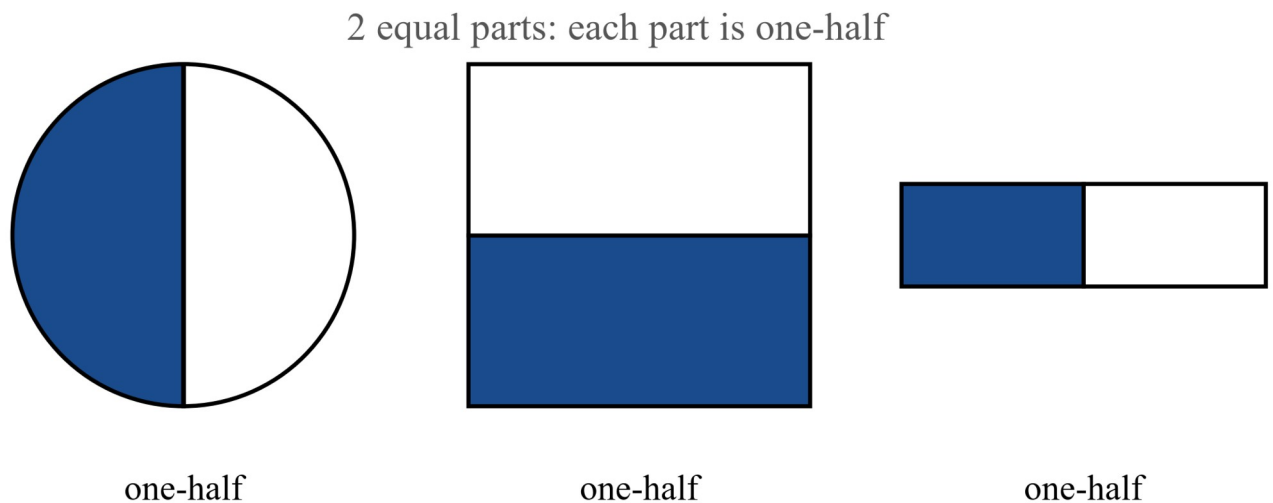
identify common uses and represent halves, quarters and eighths in relation to shapes, objects and events
— VC2M2M02

In 1F we met halves and quarters of shapes. Here we use halves, quarters and eighths with real things: food, cups, races, games and time.

Things you need: paper squares, 2 paper cups, dry sand, 2 spoons, a pencil.

What we learn

Shapes: halves, quarters and eighths

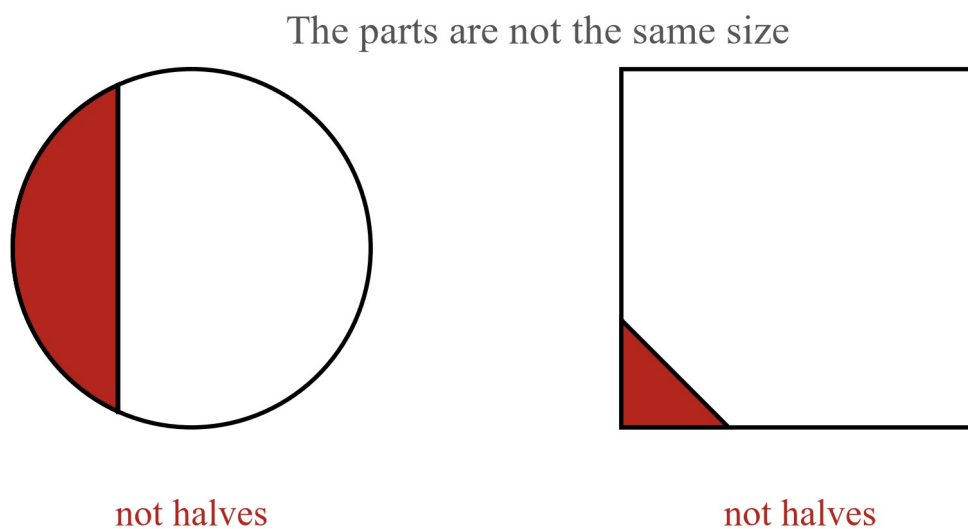


A circle, a square and a strip, each cut into 2 equal parts with 1 part coloured blue; each part is one-half

When we cut a shape into 2 equal parts, each part is **one-half** of the shape.

The **whole** is the shape before we cut it. 2 halves make 1 whole.

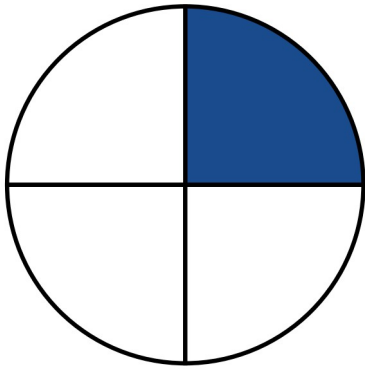
The third shape is a **strip** — a long thin piece of paper.



A circle and a square, each cut into 2 parts that are not the same size, so they are not halves

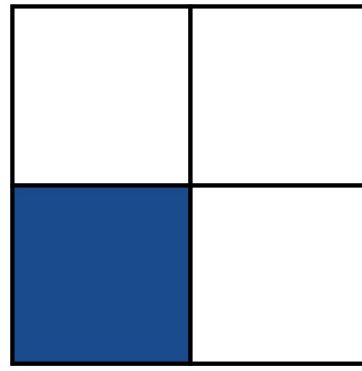
These cuts do not make halves. One part is too big. Halves must be the same size.

4 equal parts: each part is one-quarter



one-quarter

4 equal parts



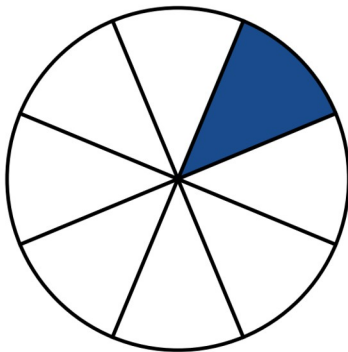
one-quarter

4 equal parts

A circle and a square, each cut into 4 equal parts with 1 part coloured blue; each part is one-quarter

Cut a shape into 4 equal parts: each part is **one-quarter**. 4 quarters make 1 whole.

8 equal parts: each part is one-eighth



one-eighth

8 equal parts



one-eighth

8 equal parts

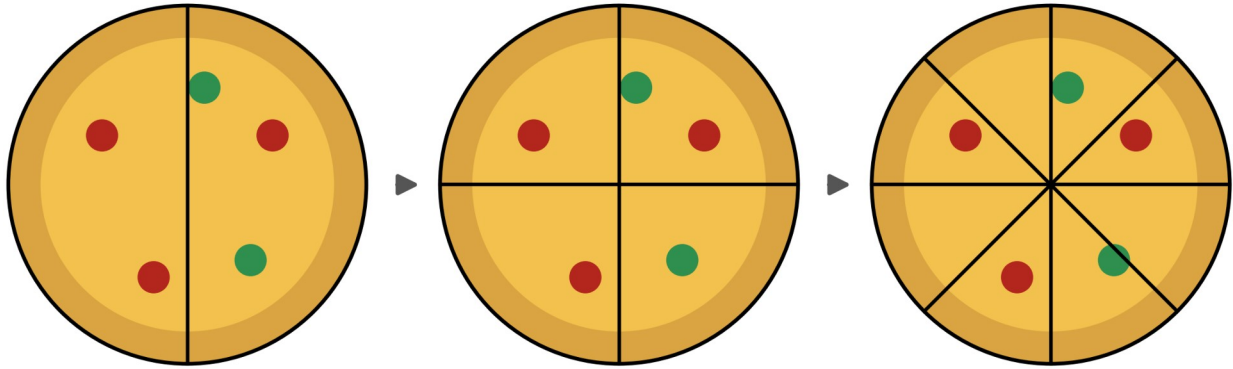
A circle and a strip, each cut into 8 equal parts with 1 part coloured blue; each part is one-eighth

Cut a shape into 8 equal parts: each part is **one-eighth**. 8 eighths make 1 whole.

Halve it, then halve it again, then halve it again: 2 parts become 4, and 4 parts become 8.

Food we can cut

Halve it, then halve it again, then halve it again



2 equal parts

halves

4 equal parts

quarters

8 equal parts

eighths

Three pizzas: 1 cut makes 2 equal parts, 2 cuts make 4 equal parts, 4 cuts make 8 equal parts; halve it, then halve it again, then halve it again

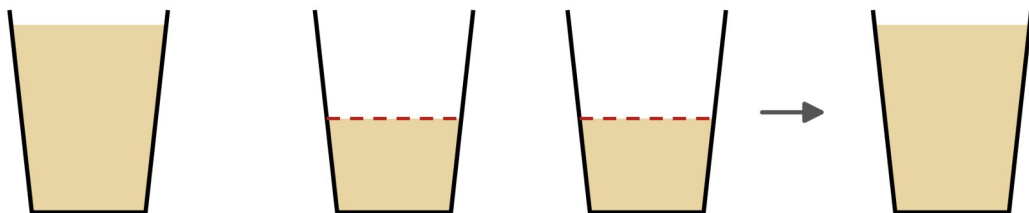
A pizza can be cut into halves, quarters or eighths.

To **halve** means to cut into 2 equal parts. 1 cut halves the pizza. Halve it again and 2 cuts make 4 quarters. Halve it again and 4 cuts make 8 eighths.

Each part is the same size, so the share is fair.

Cups and spoons

2 half cups fill 1 full cup



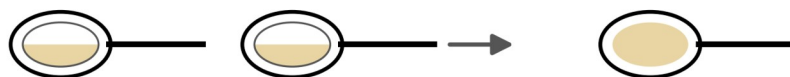
1 full cup

half a cup

half a cup

1 full cup

2 half spoons fill 1 full spoon



half a spoon

half a spoon

1 full spoon

Cups and spoons with sand: 2 half cups fill 1 full cup, and 2 half spoons fill 1 full spoon

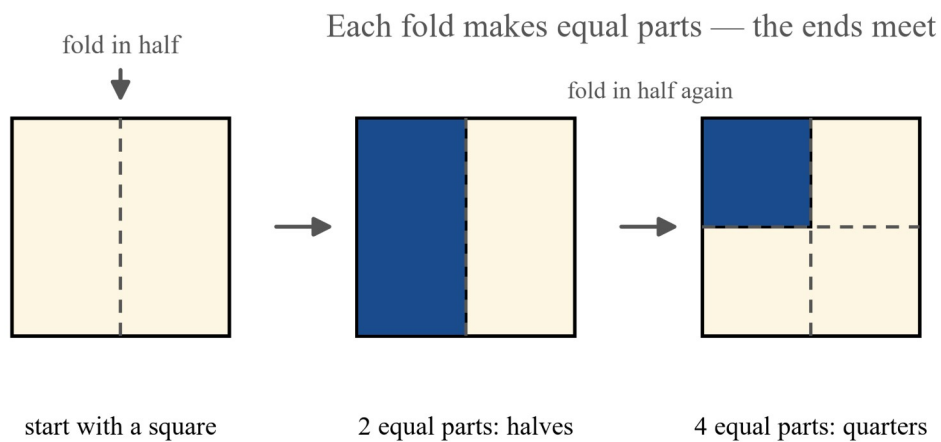
In cooking, we use cup and spoon measures.

A cup can be full, or half full. The red line is the half mark. Sand up to the mark is half a cup.

2 half cups of sand fill 1 full cup. 2 half spoons of sand fill 1 full spoon.

Half and half make 1 whole.

Folding paper



A paper square folded in half makes 2 equal parts, then folded in half again makes 4 equal parts; the ends meet at each fold

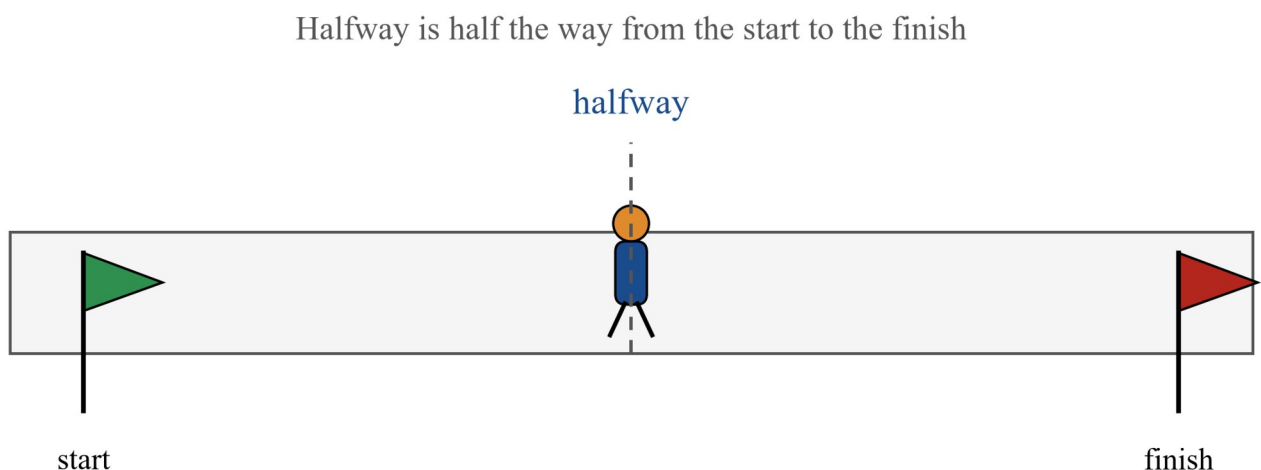
To **fold** means to bend the paper over, so one part sits on the other part.

Fold a paper square in half. Open it. The fold makes 2 equal parts: halves.

Fold it in half again. Open it. Now there are 4 equal parts: quarters.

Each fold makes equal parts — the ends meet. That is how we know the parts are equal.

Halfway

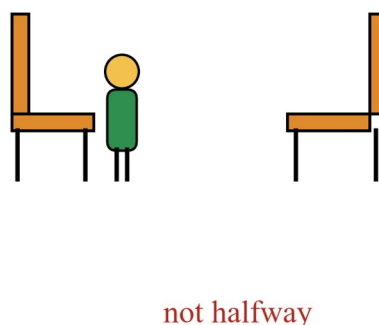
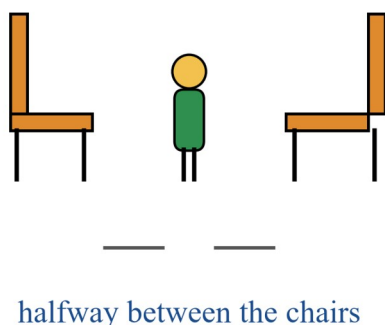


A child at the halfway point of a race, half the way from the start flag to the finish flag

Halfway is half the way from the start to the finish.

A child runs from the start and stops halfway. The distances from the start and from the finish are the same.

Halfway means the same distance from each chair



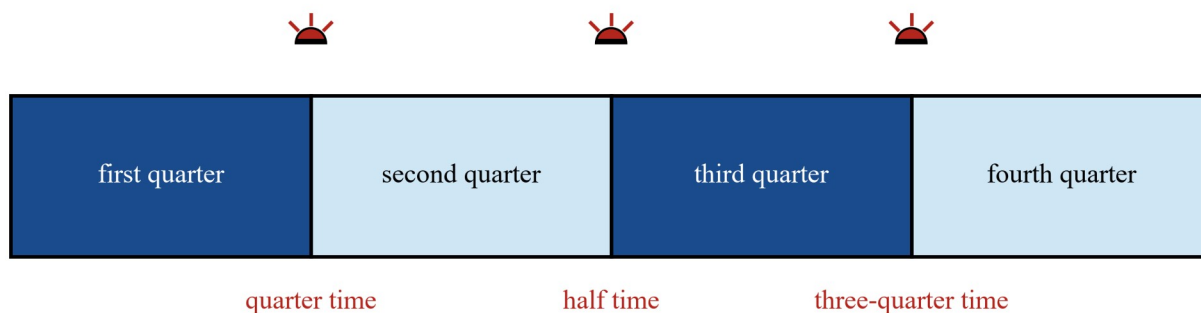
One child stands halfway between 2 chairs, the same distances from each chair; another child stands near one chair, so not halfway

Halfway between 2 chairs means the distances from each chair are the same.

In the second picture, the child is near one chair. That is not halfway.

Games and time

One game has 4 equal parts



The siren sounds at the end of each quarter

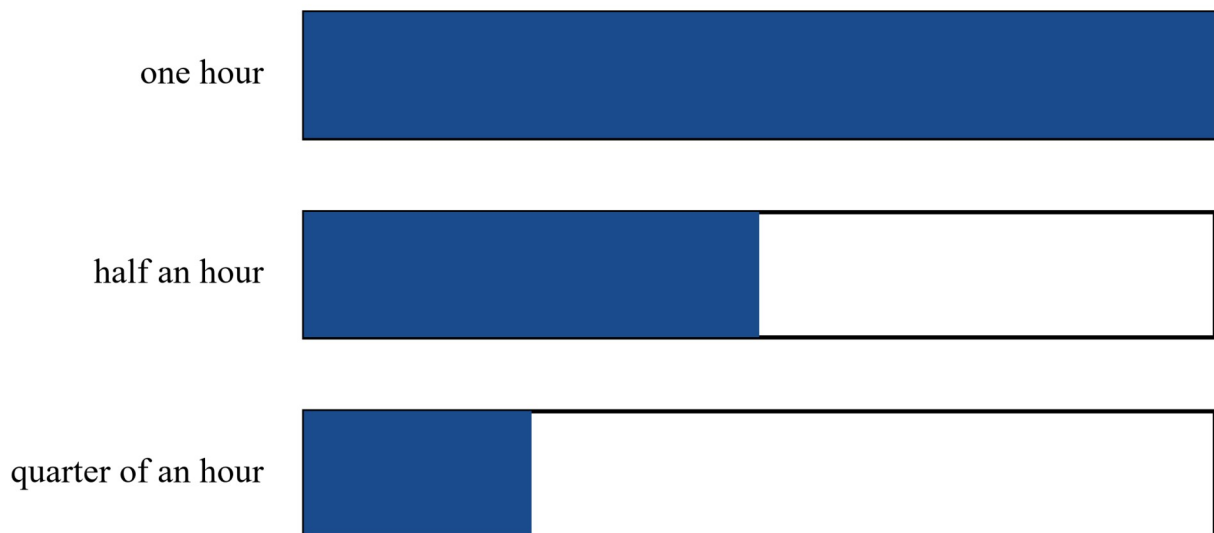
A football game split into 4 equal quarters, with sirens at quarter time, half time and three-quarter time

A football game has 4 equal parts. Each part is one-quarter of the game.

A **siren** is a loud sound at the ground. The siren sounds at the end of each quarter: quarter time, half time and three-quarter time.

At half time, 2 quarters are done. Half of the game is done.

Split one hour into equal parts



Three bars of the same size showing one hour, half an hour, and a quarter of an hour

Half an hour is half of 1 hour. A quarter of an hour is one-quarter of 1 hour.

Half an hour and half an hour make 1 hour.

We try together

Do these with your teacher. Use paper, cups and sand.

We try 1 — cut the pizza

I cut a pizza in half. Then I halve it. Then I halve it again. How many equal parts are there now? What is each part called?

Working

Note

Start: 1 whole pizza.

The whole is the pizza before we cut it.

Cut in half: 2 equal parts.

Each part is one-half.

Halve it again: 4 equal parts.

Each part is one-quarter.

Halve it again: 8 equal parts.

Each part is one-eighth.

$\therefore$ There are 8 equal parts. Each part is one-eighth of the pizza.

We try 2 — half cups and full cups

I fill half a cup with sand. My friend fills half a cup with sand too. We put the sand from both cups into one empty cup. What happens?

Working

Note

My sand: half a cup.

The sand sits at the half mark.

My friend's sand: half a cup.

The sand sits at the half mark.

Together they fill 1 full cup.

2 halves make 1 whole.

Check with spoons: 2 half spoons fill 1 full spoon.

The same thing happens with spoons.

$\therefore$ 2 half cups fill 1 full cup. Half and half make 1 whole.

Questions to practise

With help

Q1. Look at the pizza picture in What we learn.

- a. How many equal parts does the first pizza have? What are they called?
- b. How many cuts make the middle pizza? What are the parts called?
- c. How many equal parts does the last pizza have? What are they called?

Q2. Look at the cups picture. Yes or no?

- a. 2 half cups fill 1 full cup.
- b. 2 half spoons fill 1 full spoon.
- c. A half cup holds more sand than a full cup.

Q3. Fold a paper square in half and open it.

- a. How many equal parts do you see?
- b. What are they called?
- c. Fold it in half again and open it. How many equal parts are there now? What are they called?

Q4. Look at the race picture.

- a. Is the child halfway? How do you know?
- b. The child runs on to the finish. How much of the race is done then?

Q5. A football game has 4 equal parts.

- a. What is each part called?
- b. At half time, how many parts are done?
- c. At three-quarter time, how many parts are done?

Q6. Look at the time bars.

- a. How many “half an hour” bars make the “one hour” bar?
- b. How many “quarter of an hour” bars make the “one hour” bar?

On your own

Q7. Draw a circle pizza. Draw 2 cuts that make quarters. Colour 1 part of the pizza.

Q8. I cut a sandwich in half. Then I cut each half in half. How many equal parts are there now? What is each part called?

Q9. Take a paper strip. Fold it in half, in half again, and in half again. Open it. How many equal parts are there? What is each part called?

Q10. A cup is half full of water. I add water until the cup is full. Is the new water half a cup, or a full cup?

Q11. How many half spoons of sand fill 1 full spoon? Draw spoons to show it.

Q12. 2 chairs sit in the room. Draw a child standing halfway between them. How do you know it is halfway?

Q13. A race is 8 steps long from start to finish. A child stops halfway. How many steps did the child run from the start?

Q14. The siren sounds at half time. How many quarters of the game are done? How many quarters are left?

Maths in real life

Q15. Football at the MCG

Ruby and Tom go to a football game with their dad. The game is at the Melbourne Cricket Ground (the MCG) in East Melbourne. The MCG is a big sports ground. The AFL Grand Final is played there each year.

A game has 4 equal parts called quarters. The siren sounds at the end of each quarter. We keep the numbers small. The 4 quarters are the real quarters of a real game.

Source: Wikipedia, Australian rules football, retrieved 2026-08-20.

Source: Wikipedia, Melbourne Cricket Ground, retrieved 2026-08-20.

- a. The first siren sounds. What part of the game is done?
- b. It is half time. How many quarters are done?
- c. It is three-quarter time. How many quarters are left?
- d. Which is more of the game: half, or a quarter?

Answers

- Q1.** a. 2 equal parts, halves. b. 2 cuts, quarters. c. 8 equal parts, eighths.
- Q2.** a. Yes. b. Yes. c. No — a half cup holds less sand than a full cup.
- Q3.** a. 2. b. Halves. c. 4, quarters.
- Q4.** a. Yes — half the way from the start to the finish, and the distances are the same. b. All of it: 1 whole.
- Q5.** a. One-quarter. b. 2. c. 3.
- Q6.** a. 2. b. 4.
- Q7.** Check that the 2 cuts make 4 equal parts and that 1 part is coloured.
- Q8.** 4 equal parts, quarters.
- Q9.** 8 equal parts, eighths.
- Q10.** Half a cup.
- Q11.** 2.
- Q12.** Check that the distances from each chair are the same.
- Q13.** 4 steps.
- Q14.** 2 quarters done, 2 quarters left.
- Q15.** a. One-quarter. b. 2. c. 1. d. Half of the game is more.

All the working

- Q1.** a. The first pizza has 1 cut: 2 equal parts, halves. b. The middle pizza has 2 cuts: 4 equal parts, quarters. c. The last pizza has 4 cuts: 8 equal parts, eighths.
- Q2.** a. The picture shows 2 half cups filling 1 full cup: yes. b. 2 half spoons fill 1 full spoon: yes. c. A half cup is only part of a full cup: no.
- Q3.** a. 1 fold makes 2 equal parts. b. Halves. c. Folding in half again makes 4 equal parts: quarters.
- Q4.** a. The child is half the way from the start to the finish, so yes, halfway. b. At the finish, the whole race is done: 1 whole.
- Q5.** a. 4 equal parts: each is one-quarter. b. Half time is half the game: 2 of the 4 parts. c. Three-quarter time: 3 of the 4 parts.
- Q6.** a. Half an hour and half an hour make 1 hour: 2. b. 4 quarters of an hour make 1 hour: 4.
- Q7.** 2 cuts through the middle make 4 equal parts. Colour 1 of them. The coloured part is one-quarter.
- Q8.** Halve the sandwich: 2 parts. Halve it again: 4 equal parts. Each part is one-quarter.
- Q9.** Halve it: 2 parts. Halve it again: 4. Halve it again: 8 equal parts. Each part is one-eighth.
- Q10.** The cup starts half full and ends full. The new water is the other half: half a cup.
- Q11.** 2 half spoons fill 1 full spoon, as the picture shows.
- Q12.** Halfway means the distances from each chair are the same. Check that your drawing shows that.
- Q13.** Halfway is half the way. Half of 8 steps is 4 steps.
- Q14.** The game has 4 quarters. Half time is after 2 quarters: 2 done. $4 - 2 = 2$ left.

Q15. a. 1 siren means 1 quarter done: one-quarter. b. Half time is after 2 quarters: 2 done. c. Three-quarter time is after 3 quarters: $4 - 3 = 1$ left. d. Half of the game is 2 quarters, and a quarter of the game is 1 quarter. 2 quarters is more than 1 quarter.

Quarter, half, three-quarter and full measures of turn

identify, describe and demonstrate quarter, half, three-quarter and full measures of turn in everyday situations — VC2M2M05

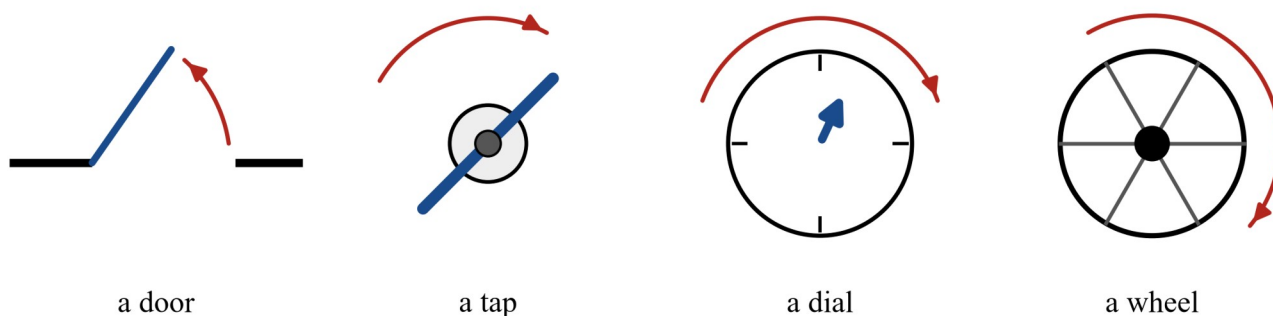
Things around us turn. We can say how much they turn, and which way they turn.

Things you need: paper plates, a paper arrow and a pin, a clock with hands, a counter to be the robot, paper and pencils, space to stand and turn.

What we learn

Things that turn

Many things turn. A door turns when it opens. The handle on a tap turns. A dial turns. A wheel turns.



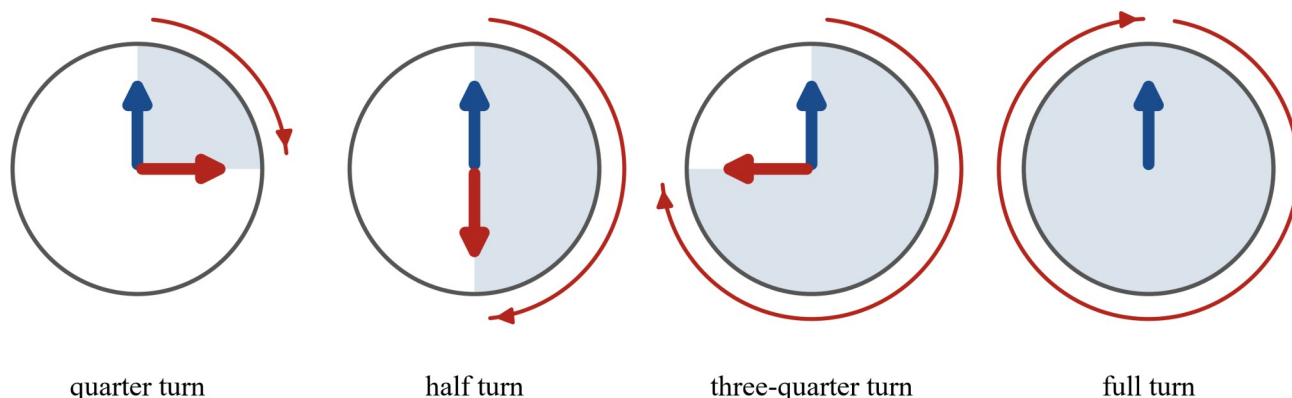
A door seen from above, a tap, a dial and a wheel, each with a red arrow showing how it turns

When something turns, it moves around one point. We can say how much it turns, and which way it turns.

How much of a turn?

We use four names for how much of a turn something makes.

- A **quarter turn** is a quarter of the way around.
- A **half turn** is half of the way around.
- A **three-quarter turn** is three quarters of the way around.
- A **full turn** goes all the way around, back to the start.



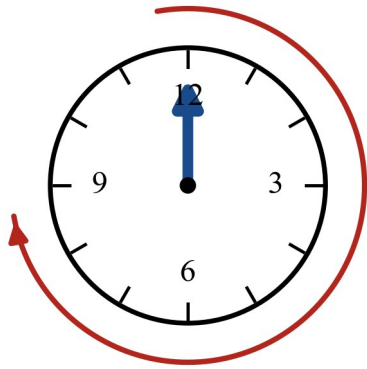
Four circles, each with a blue start arrow pointing up and a red arrow showing the end of the turn, and the turned part coloured in: a quarter turn, a half turn, a three-quarter turn and a full turn

The blue arrow shows the start. The red arrow shows the end. The coloured part shows how much of a turn was made. A quarter turn and a three-quarter turn end at different places, and the coloured parts are different sizes.

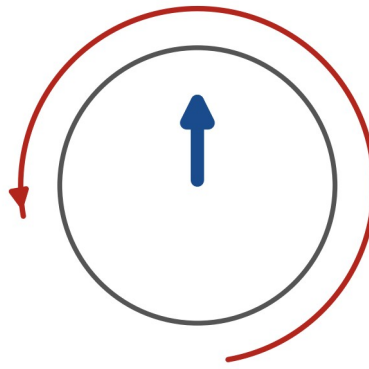
Which way?

There are two ways to turn.

Clockwise is the way clock hands go. **Anticlockwise** is the other way.



clockwise
the way clock hands go



anticlockwise
the other way

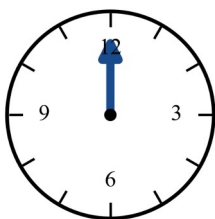
Two circles with red arrows: one arrow goes clockwise, the way clock hands go, and one arrow goes anticlockwise, the other way

The same turn can go two ways. A quarter turn clockwise and a quarter turn anticlockwise are the same size, but they end at different places.

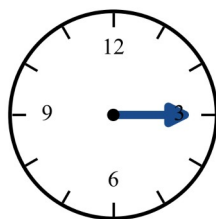
Hands on a clock

The long hand on a clock makes turns as it goes.

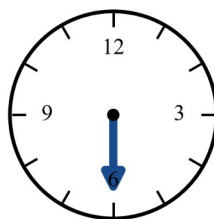
- From 12 to 3 is a quarter turn.
- From 12 to 6 is a half turn.
- From 12 to 9 is a three-quarter turn.
- From 12 all the way back to 12 is a full turn.



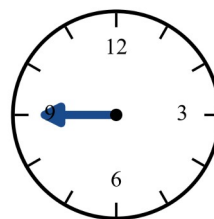
start



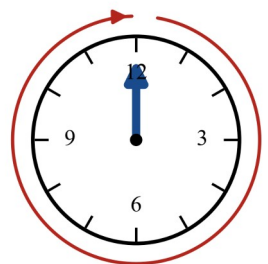
quarter turn



half turn



three-quarter turn



full turn

Five clock faces showing the long hand at 12 to start, then after a quarter turn at 3, after a half turn at 6, after a three-quarter turn at 9, and after a full turn back at 12

Clock hands always go clockwise. That is where the word comes from.

Turning your body

You can make turns too. Stand up and face the front.

- Make a quarter turn. You face a new way.

- Make a half turn. You face the other way.
- Make a full turn. You face the same way as the start.

In a dance, the steps can say: make a half turn, then a quarter turn. Following the steps is following directions.

Robots turn too

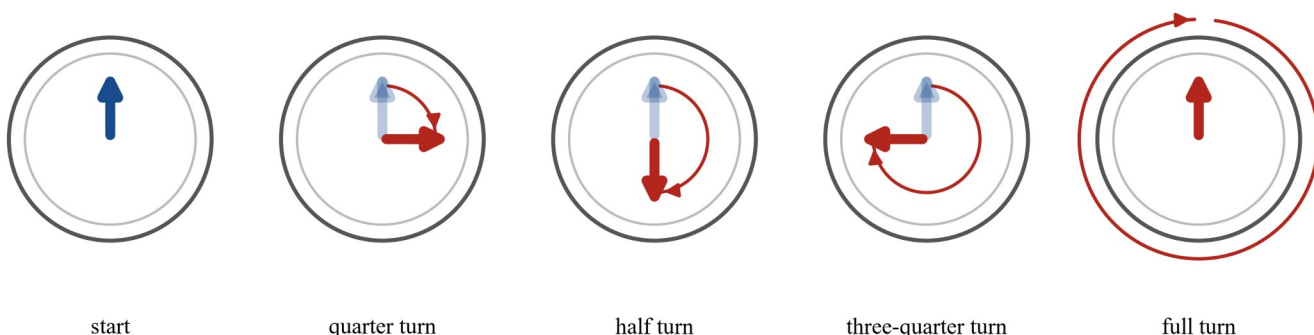
A robot can turn on the spot. A quarter turn to the right is a quarter turn clockwise. A quarter turn to the left is a quarter turn anticlockwise. Directions for a robot use turns: *move forward, then make a quarter turn clockwise.*

We try together

Do these with your teacher. Turn things you can touch, or use the pictures here.

We try 1 — the plate arrow

Pin the paper arrow to the middle of the plate. Start the arrow at the top, like 12 on a clock. Turn the arrow clockwise, and name each turn.



Five paper plates, each with a light blue arrow at the top to show the start and a red arrow showing the end of the turn: a quarter turn, a half turn, a three-quarter turn and a full turn, all clockwise

Working

Note

Start the arrow at the top.

The first plate shows the start.

Turn the arrow to the right side.

That is a quarter turn, like 12 to 3.

Turn on to the bottom.

Now the arrow has made a half turn.

Turn on to the left side.

Now it has made a three-quarter turn.

Turn on back to the top.

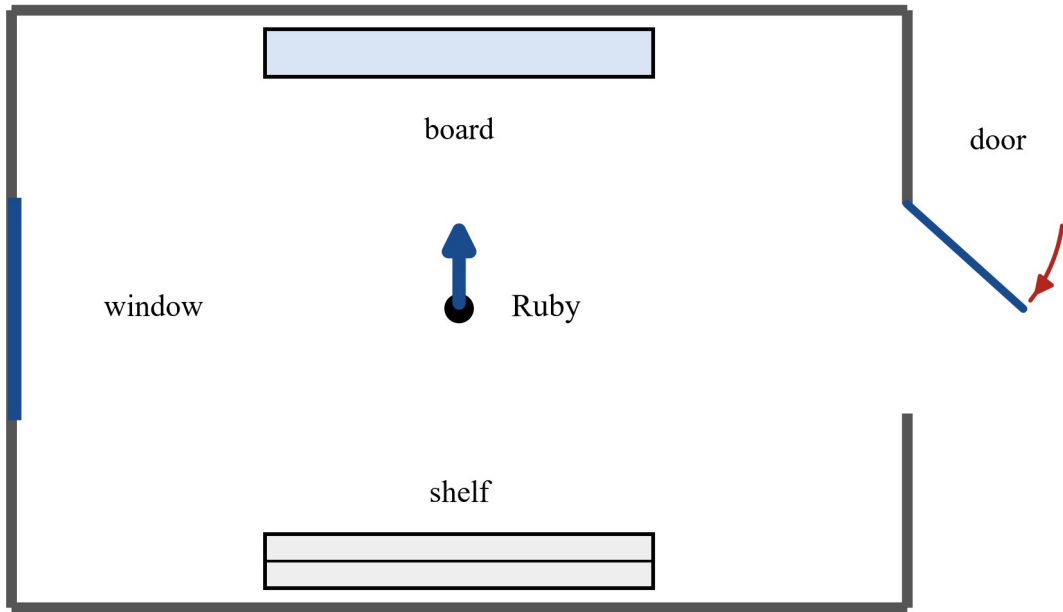
A full turn takes it back to the start.

∴ Clockwise from the top: the right side is a quarter turn, the bottom is a half turn, the left side is a three-quarter turn, and back at the top is a full turn.

We try 2 — Ruby turns in the room

Ruby stands in the middle of the room. She faces the board. She makes a half turn clockwise. Then she makes a quarter turn clockwise. Where does she face?

Ruby stands in the middle. She faces the board.



A room seen from above with a board at the top, a shelf at the bottom, a window on the left and a door on the right. Ruby stands in the middle, facing the board

Working

Ruby faces the board. She makes a half turn clockwise.

Ruby makes a quarter turn clockwise.

Note

A half turn faces the other way. Ruby now faces the shelf.

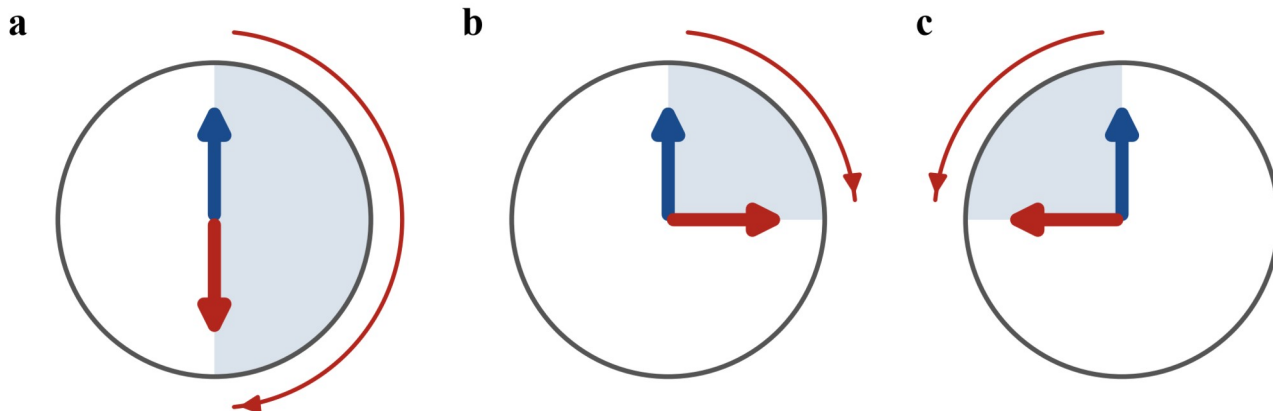
Clockwise from the shelf takes her to the window. Ruby now faces the window.

$\therefore$ After the half turn Ruby faces the shelf. After the quarter turn she faces the window.

Questions to practise

With help

Q1. Look at the red arrows. Name each turn (quarter, half, three-quarter or full), and say which way it goes (clockwise or anticlockwise).



Three circles labelled a, b and c, each with a blue start arrow pointing up, a red arrow showing the end of the turn, and a red arrow outside the circle showing the way of the turn

Q2. Fill the gaps. Use the words in the box.

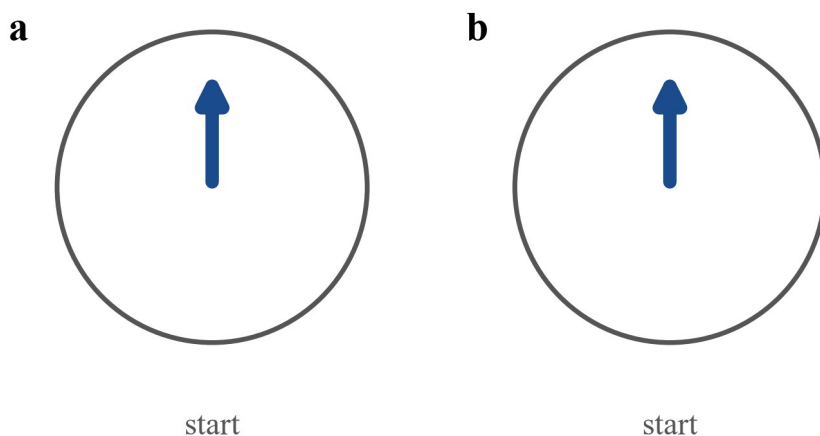
box: clockwise · anticlockwise · quarter · half · three-quarter · full

- The way clock hands go: ☐.
- The other way: ☐.
- The long hand goes from 12 to 6. It makes a ☐ turn.
- The long hand goes from 12 back to 12. It makes a ☐ turn.
- The long hand goes from 12 to 9. It makes a ☐ turn.

Q3. The long hand starts at 12. Write the number it points to after each turn.

- A quarter turn: ☐.
- A half turn: ☐.
- A three-quarter turn: ☐.
- A full turn: ☐.

Q4. Draw the arrow after each turn. The blue arrow shows the start.



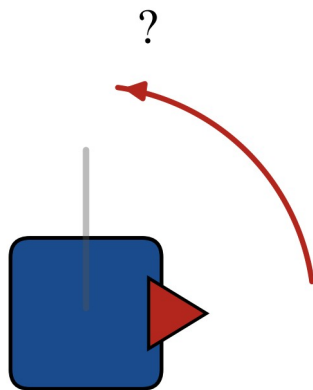
Two circles labelled a and b, each with a blue arrow pointing up to show the start

- The arrow makes a half turn.
- The arrow makes a three-quarter turn clockwise.

Q5. Tom stands in the middle of the room from We try 2. He faces the door.

- Tom makes a quarter turn anticlockwise. What does he face now?
- Tom makes a half turn. What does he face now?

Q6. The robot faces right, as shown. It makes a quarter turn anticlockwise. Which way does it face now? Draw it.



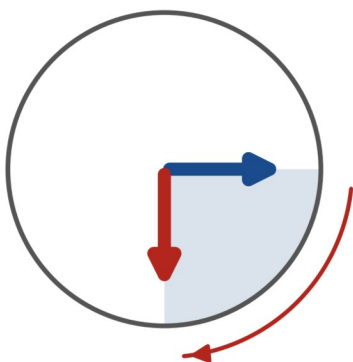
start

A robot seen from above, facing right, with a red arrow showing a quarter turn anticlockwise and a question mark where it will face

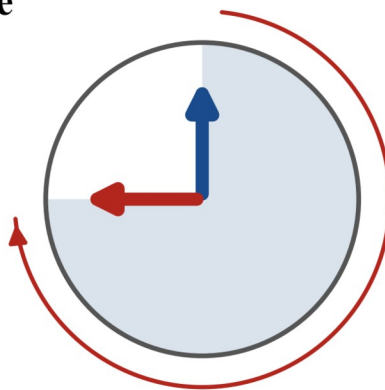
On your own

Q7. Look at the red arrows. Name each turn, and say which way it goes.

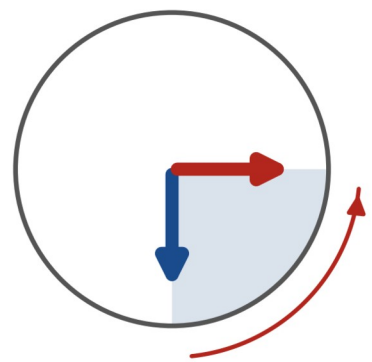
d



e



f



Three circles labelled d, e and f, each with a blue start arrow, a red arrow showing the end of the turn, and a red arrow outside the circle showing the way of the turn

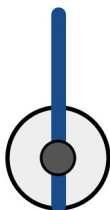
Q8. How much of a turn is it? Write quarter, half, three-quarter or full.

- The long hand goes from 3 to 9.
- The long hand goes from 4 all the way back to 4.
- The long hand goes from 12 to 9.
- You face the board, then you turn to face the other way.

Q9. Which way is the turn? Write clockwise or anticlockwise.

- a. The long hand goes from 12 to 3.
- b. An arrow on a plate starts at the top. A quarter turn takes it to the left.

Q10. The handle on a tap points up, as shown.



start

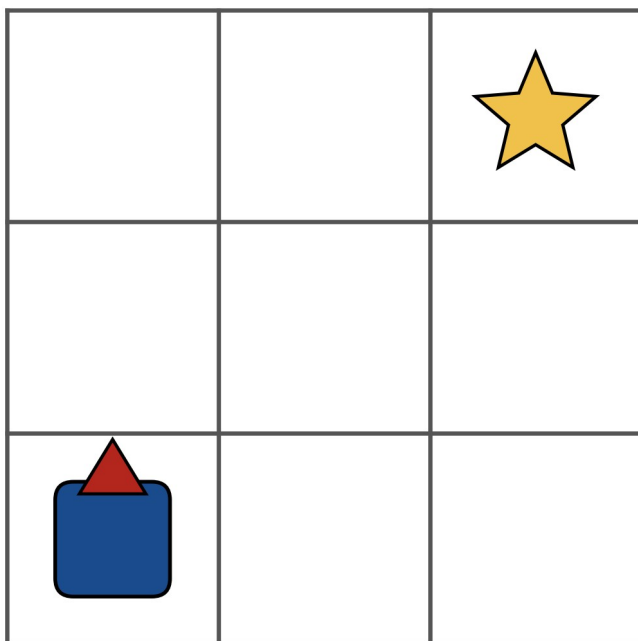
A tap seen from the front with its handle pointing up to show the start

- a. The handle makes a half turn. Which way does it point now?
- b. A new tap starts at the top too. Its handle makes a quarter turn anticlockwise. Which way does it point now?

Q11. Dance time! Your teacher says: *Face the front. Now make a half turn.*

- a. Which way do you face now?
- b. Does it matter which way you turned, clockwise or anticlockwise? Why?

Q12. The robot game. The robot starts in the bottom left square, facing up, as shown. Follow the directions: *Move 2 squares forward. Make a quarter turn clockwise. Move 1 square forward.*



start

A grid of nine squares. A robot starts in the bottom left square facing up, and a star sits in the top right square

- Which square is the robot in now?
- Which way does the robot face now?
- Write one more direction to take the robot to the star.

Q13. A dial starts at the top. Mia turns it a quarter turn clockwise, then a quarter turn clockwise again. Has the dial made a half turn from the start? How do you know?

Q14. You stand up and face the front.

- You make a full turn. Which way do you face now?
- How many quarter turns make one full turn?

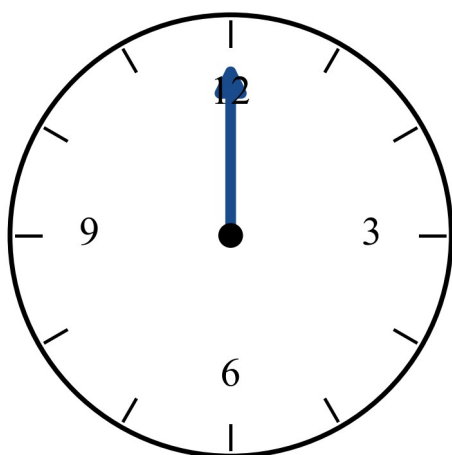
Maths in real life

Q15. Meet me under the clocks

Flinders Street Station is in Melbourne. Above the doors at the entrance there is a row of clocks. For a long time, people in Melbourne have said, *Meet me under the clocks*.

Source: Metro Trains Melbourne, “Flinders Street Station”, metrotrains.com.au, retrieved 2026-08-20. Source: Wikipedia, “Flinders Street railway station”, retrieved 2026-08-20.

Every clock face turns the same way, so every answer here is a real one.



The long hand starts at 12.

A clock face with the long hand pointing at 12

The long hand starts at 12.

- The long hand makes a quarter turn. What number does it point to now?
- Starting again at 12, the long hand makes a half turn. What number now?
- Starting again at 12, the long hand makes a three-quarter turn. What number now?
- Starting again at 12, the long hand makes a full turn. What number now?
- Clock hands turn one way only. Is that way clockwise? (yes or no)

Answers

Q1. a. A half turn, clockwise. b. A quarter turn, clockwise. c. A quarter turn, anticlockwise.

Q2. a. clockwise b. anticlockwise c. half d. full e. three-quarter.

Q3. a. 3 b. 6 c. 9 d. 12.

Q4. a. The arrow points down. b. The arrow points left.

Q5. a. The board. b. The shelf.

Q6. Up.

Q7. d. A quarter turn, clockwise. e. A three-quarter turn, clockwise. f. A quarter turn, anticlockwise.

Q8. a. Half. b. Full. c. Three-quarter. d. Half.

Q9. a. Clockwise. b. Anticlockwise.

Q10. a. Down. b. Left.

Q11. a. The back of the room. b. No; a half turn ends at the same place either way, so clockwise and anticlockwise both end facing the back.

Q12. a. The top middle square. b. Right. c. Move 1 square forward.

Q13. Yes; a quarter turn and a quarter turn make a half turn.

Q14. a. The same way as the start. b. 4.

Q15. a. 3. b. 6. c. 9. d. 12. e. Yes.

All the working

Q1. a. The red arrow ends at the bottom, and the way arrow goes the long way round one side: a half turn, clockwise. b. The red arrow ends at the right side, and the way arrow goes to the right: a quarter turn, clockwise. c. The red arrow ends at the left side, and the way arrow goes to the left: a quarter turn, anticlockwise.

∴ a. half turn, clockwise b. quarter turn, clockwise c. quarter turn, anticlockwise.

Q2. Clock hands go clockwise, so the other way is anticlockwise. On a clock, 12 to 6 is a half turn, 12 back to 12 is a full turn, and 12 to 9 is a three-quarter turn.

∴ a. clockwise b. anticlockwise c. half d. full e. three-quarter.

Q3. A quarter turn from 12 lands on 3. A half turn from 12 lands on 6. A three-quarter turn from 12 lands on 9. A full turn lands back on 12.

∴ a. 3 b. 6 c. 9 d. 12.

Q4. a. A half turn from the top ends at the bottom, so the arrow points down. b. A three-quarter turn clockwise from the top goes: right (quarter), down (half), left (three-quarter). The arrow points left.

∴ a. down b. left.

Q5. a. Tom faces the door. A quarter turn anticlockwise from the door takes him to the board. b. A half turn from the board faces the other way: the shelf.

∴ a. the board b. the shelf.

Q6. The robot faces right. A quarter turn anticlockwise takes the right facing up to the top.

∴ The robot faces up.

Q7. d. The start is at the right and the end is at the bottom, going the clock way: a quarter turn, clockwise. e. The start is at the top and the end is at the left, going the long way round the clock way: a three-quarter turn, clockwise. f. The start is at the bottom and the end is at the right, going the other way: a quarter turn, anticlockwise.

∴ d. quarter turn, clockwise e. three-quarter turn, clockwise f. quarter turn, anticlockwise.

Q8. a. From 3 to 9 is straight across the clock: a half turn. b. Back to the start is a full turn. c. 12 to 9 is a three-quarter turn. d. Facing the other way is a half turn.

∴ a. half b. full c. three-quarter d. half.

Q9. a. 12 to 3 is the way clock hands go: clockwise. b. From the top, the left is reached by a quarter turn the other way: anticlockwise.

∴ a. clockwise b. anticlockwise.

Q10. a. A half turn from up ends at down. b. A quarter turn anticlockwise from up ends at left.

∴ a. down b. left.

Q11. a. A half turn faces the other way, so you face the back of the room. b. It does not matter. Clockwise and anticlockwise half turns both end at the same place: facing the back.

∴ a. the back b. no, both ways end facing the back.

Q12. The robot starts at the bottom left, facing up. Move 2 squares forward puts it at the top left. A quarter turn clockwise makes it face right. Move 1 square forward puts it at the top middle. The star is one more square to the right, and the robot faces right, so: move 1 square forward.

∴ a. the top middle square b. right c. Move 1 square forward.

Q13. A quarter turn and then a quarter turn is two quarters, and two quarters make a half. So the dial has made a half turn from the start.

∴ Yes, a half turn.

Q14. a. A full turn goes all the way around, so you face the same way as the start. b. Four quarter turns go all the way around: 4 quarter turns make a full turn.

∴ a. the same way as the start b. 4.

Q15. a. A quarter turn from 12 points to 3. b. A half turn from 12 points to 6. c. A three-quarter turn from 12 points to 9. d. A full turn from 12 points back to 12. e. Clock hands go the way we call clockwise, so yes.

∴ a. 3 b. 6 c. 9 d. 12 e. yes.

What comes next

In Level 3 you will learn about right angles, using what you know about quarter turns (VC2M3M05).

Test

Chapter check C3 — Measurement

Mathematics Level 2 · Chapter 3 · Subtopics 3A, 3B, 3C, 3D, 3E · Codes VC2M2M01, VC2M2M03, VC2M2M04, VC2M2M02 and VC2M2M05

Total: 25 marks · Section A (multiple choice): 2 marks · Section B (short answer): 14 marks · Section C (show your working): 9 marks

Untimed. Planned for about 25 minutes. This is a check, not an exam. There is no time to beat.

This is a school-made check for your class. It is not a VCAA exam. There is no pass or fail. The marks help your teacher see what you can do.

This check is about what you learned in Chapter 3: measuring with units, calendars, clocks, halves, quarters and eighths, and turns.

Conditions

- There is **no time limit**. The 25 minutes is a guide for planning only. Take as long as you need.
- **Things you need are on the desk:** counters, connecting cubes, same-size blocks, cups, spoons, sand, containers (a bottle, a tub and a bucket), paper squares, a paper-plate clock and a 2026 wall calendar. You may use them for any question.
- **No calculators.**
- Your teacher may **read any question out to you** if you need it. Reading is not what is being checked, and your teacher will not help with the answer.
- Answer every question. For multiple-choice questions, circle the letter of the best answer. There is only one best answer for each question.

Words you need — from Chapter 3

- **length** — how long something is · **capacity** — how much a container can hold · **mass** — how heavy something is
- **unit** — one thing we measure with · **uniform** — the same each time
- **half** — one of 2 equal parts · **quarter** — one of 4 equal parts · **eighth** — one of 8 equal parts
- **o'clock, half past, quarter past, quarter to** — the ways we say the time on an analog clock
- **clockwise** — the way clock hands go · **anticlockwise** — the other way

Section A — Choose the best answer (2 marks)

Each question is worth 1 mark. Circle the letter of the best answer.

Q1 (1 mark · VC2M2M01) Ruby wants to measure the **length** of the classroom. Which is the better unit?

A. counters B. steps C. spoons D. cups

Q2 (1 mark · VC2M2M04) The big hand points to 12. The little hand points to 7. What time is it?

A. quarter past 7 B. half past 7 C. 7 o'clock D. quarter to 7

Section B — Short answer (14 marks)

Q3 (3 marks · VC2M2M01) Mia uses one cup and sand. The bottle holds 7 cups of sand. The tub holds 12 cups of sand.

- Which holds more, the bottle or the tub? (1 mark)
- How many more cups does it hold? Write the number sentence. (2 marks)

Q4 (4 marks · VC2M2M03) Use this calendar for April 2026.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		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	26
27	28	29	30			

In 2026, Good Friday is on 3 April, Easter Monday is on 6 April, and Anzac Day is on 25 April.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

For part b, count on from the first day. Do not count the first day.

- What day of the week is Anzac Day in 2026? (1 mark)
- How many days from Good Friday to Anzac Day? Show how you counted. (2 marks)
- What date is 2 weeks after Easter Monday? What day of the week is it? (1 mark)

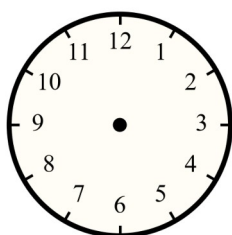
Q5 (2 marks · VC2M2M02) Tom folds a paper square in half. Then he folds it in half again. He opens it up.

- How many equal parts are there? (1 mark)
- What is each part called? (1 mark)

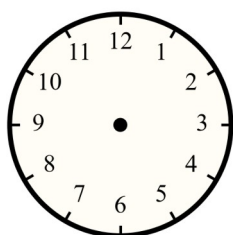
Q6 (3 marks · VC2M2M05)

- The long hand on a clock goes from 12 to 6. What turn is that? Write quarter, half, three-quarter or full. (1 mark)
- You face the front of the room. You make a half turn. Which way do you face now? (1 mark)
- Clock hands turn one way only. What is that way called? (1 mark)

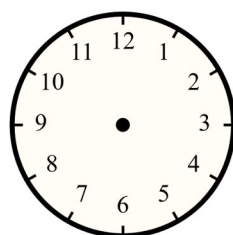
Q7 (2 marks · VC2M2M04) Look at the blank clocks picture. On clock a, draw hands to show **half past 9**.



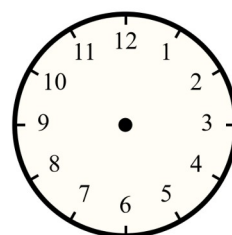
a



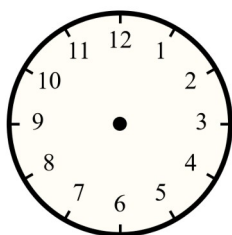
b



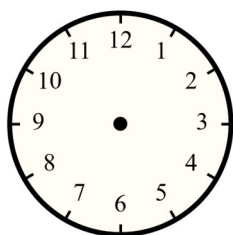
c



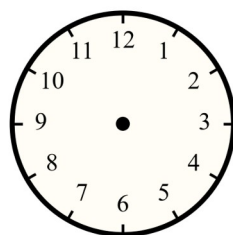
d



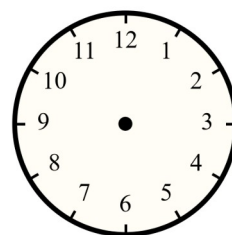
e



f



g



h

Eight blank clock faces labelled a to h. Each face has the numbers 1 to 12 and a dot at the middle, and no hands.

Section C — Show your working (9 marks)

Show all your working for these questions.

Q8 (3 marks · VC2M2M01) The shelf is 4 blocks long. Two cubes fit along each block.

- How many cubes long is the shelf? Show your working. (2 marks)
- Why is the number of cubes more than the number of blocks? (1 mark)

Q9 (3 marks · VC2M2M03) The Melbourne Cup is on Tuesday 3 November 2026. The last day of Term 4 is on Friday 18 December 2026.

Source: Business Victoria, Victorian public holidays 2026, business.vic.gov.au, retrieved 2026-08-19.

Source: Department of Education (Victoria), School term dates and holidays Victoria, vic.gov.au, retrieved 2026-08-19.

Count on from the first day. Do not count the first day.

- How many days are left in November after Melbourne Cup Day? (November has 30 days.) (1 mark)
- How many days from the Melbourne Cup to the last day of Term 4? Show your working. (2 marks)

Q10 (3 marks · VC2M2M02) An Australian Rules football game has 4 equal parts called quarters. A **siren** is a loud sound at the ground. The siren sounds at the end of each quarter. Ruby and Tom watch a game at the Melbourne Cricket Ground (the MCG). The MCG is a big sports ground in Melbourne.

The numbers here are small on purpose. The 4 quarters are the real quarters of a real game.

Source: Wikipedia, Australian rules football, retrieved 2026-08-20.

Source: Wikipedia, Melbourne Cricket Ground, retrieved 2026-08-20.

- It is half time. How many quarters are done? (1 mark)
- It is three-quarter time. How many quarters are left? Show how you know. (1 mark)
- Which is more of the game: half, or one quarter? How do you know? (1 mark)

Solutions

For the teacher. The student paper ends above.

Answer key

Q	Code	Marks	Answer
Q1	VC2M2M01	1	B — steps
Q2	VC2M2M04	1	C — 7 o'clock
Q3	VC2M2M01	3	a. the tub · b. 5 cups; $12 - 7 = 5$
Q4	VC2M2M03	4	a. Saturday · b. 22 days · c. Monday 20 April 2026
Q5	VC2M2M02	2	a. 4 equal parts · b. quarters (one-quarter)
Q6	VC2M2M05	3	a. half turn · b. the back of the room · c. clockwise
Q7	VC2M2M04	2	big hand on 6; little hand between 9 and 10
Q8	VC2M2M01	3	a. 8 cubes; $2 + 2 + 2 + 2 = 8$ · b. a smaller unit means more units fit
Q9	VC2M2M03	3	a. 27 days · b. 45 days; $27 + 18 = 45$
Q10	VC2M2M02	3	a. 2 quarters · b. 1 quarter; $4 - 3 = 1$ · c. half — half is 2 quarters

25

Fully worked solutions

Q1. The classroom is long. Steps are long too. Counters, spoons and cups are small. It would take too many of them. A long thing needs a long unit.

∴ **B** — steps.

Q2. The big hand points to 12, so it is o'clock. The little hand points to 7, so the hour is 7.

∴ **C** — 7 o'clock.

Q3. 12 is more than 7, so the tub holds more. To find how many more, subtract: $12 - 7 = 5$.

∴ a. The tub. b. 5 cups more; $12 - 7 = 5$.

Q4. a. Find 25 April on the calendar. Look up to the top of its row. 25 April is in the Saturday row.

b. Both dates are in April, so you can subtract: $25 - 3 = 22$. You can also count on by weeks: 3 April to 10 April is 7 days, 10 April to 17 April is 7 more days, 17 April to 24 April is 7 more days (21 days so far), and 1 more day comes to 25 April: 22 days.

c. 2 weeks is 14 days: $6 + 14 = 20$. The day of the week stays the same: Monday.

∴ a. Saturday b. 22 days c. Monday 20 April 2026.

Q5. Fold in half: 2 equal parts. Fold in half again: 4 equal parts. Each of 4 equal parts is one-quarter.

∴ a. 4 equal parts b. quarters.

Q6. a. From 12 to 6 is halfway around the face: a half turn. b. A half turn faces the other way: the back of the room. c. Clock hands go the way we call clockwise.

∴ a. A half turn. b. The back of the room. c. Clockwise.

Q7. Half past 9: the big hand (the minute hand) points to 6. The little hand (the hour hand) is past the 9 and on its way to the 10.

∴ Big hand on 6; little hand between 9 and 10.

Q8. a. Two cubes fit along each block. There are 4 blocks, so that is 4 groups of 2 cubes. Count by 2: 2, 4, 6, 8. The number sentence is $2 + 2 + 2 + 2 = 8$. b. A cube is smaller than a block. The shelf did not change. Only the unit changed, and a smaller unit means more units fit.

∴ a. 8 cubes b. The cubes are smaller than the blocks, so more of them fit.

Q9. a. November has 30 days. Days left after Tuesday 3 November: $30 - 3 = 27$. b. Count the days in December up to the last day of Term 4: 18 days. Add them to the days left in November: $27 + 18 = 45$. Check by weeks: 6 weeks from Tuesday 3 November is Tuesday 15 December (42 days), and 3 more days come to Friday 18 December: $42 + 3 = 45$.

∴ a. 27 days b. 45 days.

Q10. a. Half time is after 2 quarters: 2 quarters are done. b. Three-quarter time is after 3 quarters. The game has 4 quarters: $4 - 3 = 1$. c. Half of the game is 2 quarters. One quarter of the game is 1 quarter. 2 is more than 1.

∴ a. 2 quarters b. 1 quarter left c. Half is more of the game.

Marking guide

This guide is written for the classroom teacher. Award a mark when the student's answer matches an acceptable response below or says the same idea in other words. Do not award half marks. A **strategy mark** is awarded for a correct method shown in the working, even if a counting slip makes the final number wrong; the **answer mark** needs the right number. Any item may have been read aloud to the student; that changes nothing about the marks.

Q1 (1 mark · VC2M2M01) **B** — steps. 1 mark for B or “steps”. Note: the classroom is long, so a long unit is the suitable unit; counters, spoons and cups would take too many to count (choosing a suitable informal unit, as in 3A).

Q2 (1 mark · VC2M2M04) **C** — 7 o'clock. 1 mark for C or “7 o'clock”. Note: big hand at 12 means o'clock; the little hand names the hour.

Q3 (3 marks · VC2M2M01) a. The tub. 1 mark b. 5 cups. 1 mark Number sentence: $12 - 7 = 5$. 1 mark Accept a correct horizontal number sentence that shows the difference. Do not accept a vertical layout (D18).

Q4 (4 marks · VC2M2M03) a. Saturday. 1 mark b. 22 days. 1 mark Strategy: counting on shown on the calendar, counting on by weeks, or subtraction $25 - 3 = 22$. 1 mark The first day (Good Friday) is not counted; 22 is the number the frame gives. c. Monday 20 April 2026. 1 mark The date and the day are both needed. Accept “20 April” with “Monday”. 2 weeks is 14 days: $6 + 14 = 20$, and the day of the week stays the same.

Q5 (2 marks · VC2M2M02) a. 4 equal parts. 1 mark b. quarters (or “one-quarter” for each part). 1 mark Words are expected. If a student writes a fraction symbol of their own, accept it, but no item on this paper requires one (D10).

Q6 (3 marks · VC2M2M05) a. A half turn. 1 mark Accept “half”. b. The back of the room (the other way). 1 mark c. Clockwise. 1 mark

Q7 (2 marks · VC2M2M04) Big hand (minute hand) pointing to 6. 1 mark Little hand (hour hand) between 9 and 10. 1 mark The little hand must not be right on the 9 or right on the 10. If a student shows half past 9 on the paper-plate clock instead of drawing it, accept the shown hands.

Q8 (3 marks · VC2M2M01) a. 8 cubes. 1 mark Working: count-by-2 (2, 4, 6, 8) or the number sentence $2 + 2 + 2 + 2 = 8$. 1 mark b. Any response that says the cubes are smaller than the blocks, and a smaller unit means more units fit (the shelf did not change). 1 mark

Q9 (3 marks · VC2M2M03) a. 27 days ($30 - 3 = 27$). 1 mark b. 45 days. 1 mark Strategy: add the 18 days of December up to the last day of Term 4 to the days left in November: $27 + 18 = 45$. 1 mark Follow-through: if part a was wrong but the method in part b adds the student's part a answer to 18, award the strategy mark; the answer mark needs 45.

Q10 (3 marks · VC2M2M02) a. 2 quarters. 1 mark b. 1 quarter left, with $4 - 3 = 1$ or the same idea shown. 1 mark c. Half is more, with a reason: half of the game is 2 quarters and one quarter of the game is 1 quarter, and 2 is more than 1. 1 mark The reason is required for the mark.

Tracing the items to the achievement standard

Every item traces to the achievement-standard extract of the subtopic that owns its code (TOC section 4). The extracts are quoted as the authority file (maths_2.json) gives them. Per D25, the extract quoted for VC2M2M02 is the part-whole sentence, not the turn sentence the export carries on that code; the turn sentence is quoted under VC2M2M05, where it belongs.

Code	Subtopic	Achievement-standard extract	Items
VC2M2M01	3A	“Students use uniform informal units to measure and compare shapes and objects.”	Q1, Q3, Q8
VC2M2M03	3B	“They determine the number of days between events using a calendar	Q4, Q9 (the calendar half)

Code	Subtopic	Achievement-standard extract	Items
VC2M2M04	3C	and read time on an analog clock to the hour, half-hour and quarter hour.” “They determine the number of days between events using a calendar and read time on an analog clock to the hour, half-hour and quarter hour.”	Q2, Q7 (the clock half)
VC2M2M02	3D	“Students identify and represent part-whole relationships of halves, quarters and eighths in measurement contexts.” (part-whole sentence per D25)	Q5, Q10
VC2M2M05	3E	“Students use quarter, half, three-quarter and full measures of turn in everyday situations.”	Q6

Multiple-choice share: 2 of 25 marks (8%) — within the one-quarter cap of TOC section 7. Both MCQs are keyed to the CD code of their subtopic.

Mark record

Question	Code	Worth	Given
Q1 — better unit for a long length	VC2M2M01	1	
Q2 — reading o'clock	VC2M2M04	1	
Q3 — comparing capacity with uniform cups	VC2M2M01	3	
Q4 — calendar dates and days between events	VC2M2M03	4	
Q5 — folding paper into quarters	VC2M2M02	2	
Q6 — naming turns and their direction	VC2M2M05	3	
Q7 — drawing half past 9	VC2M2M04	2	
Q8 — smaller unit, more units	VC2M2M01	3	
Q9 — days from the Melbourne Cup to the end of Term 4	VC2M2M03	3	
Q10 — quarters of a football game	VC2M2M02	3	
Total		25	