

- 1 Simplify $5t + 4t - 2t$.

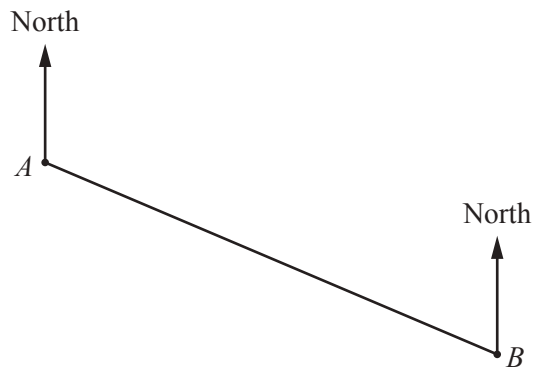
..... [1]

- 2 The lowest temperature recorded at Scott Base in Antarctica is -57.0°C .
The highest temperature recorded at Scott Base is 63.8°C more than this.

What is the highest temperature recorded at Scott Base?

..... $^{\circ}\text{C}$ [1]

3



Measure the bearing of B from A .

..... [1]

- 4 Find the value of

(a) 24^2 ,

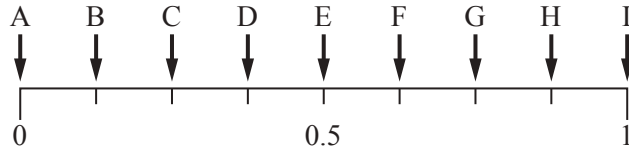
..... [1]

(b) $\sqrt[3]{2197}$.

..... [1]

- 5 A bag contains 3 green balls, 4 red balls and 1 blue ball only.
Matt takes a ball from the bag at random.

Some probabilities are marked on the probability scale.



Write down the letter that shows the probability that

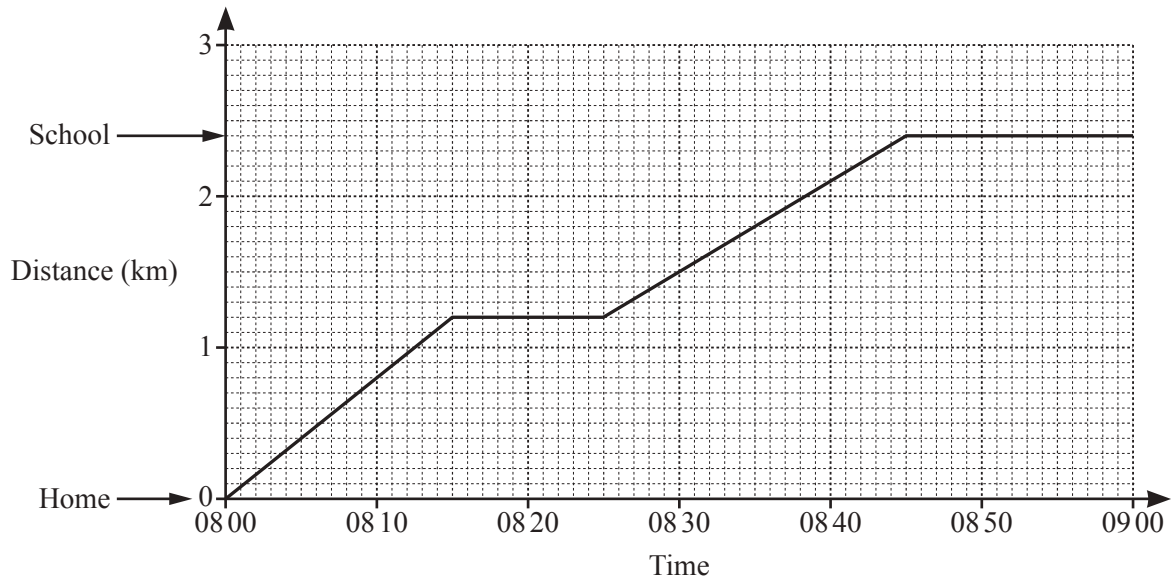
- (a) Matt takes a red ball,

..... [1]

- (b) Matt does **not** take a blue ball.

..... [1]

- 6 Sara walks from home to school.
The travel graph shows her journey.



- (a) Sara stops at a shop on her way to school.

Find the distance of the shop from her home.

..... km [1]

- (b) School starts at 08:55.

Find the number of minutes between the time Sara arrives at school and the time school starts.

..... min [1]

7 Write these in order of size, starting with the smallest.

$$\frac{7}{8} \quad \frac{5}{7} \quad 0.8 \quad 78\%$$

..... < < < [2]
smallest

8 The table shows how children in Ivan's class travel to school.

Travel to school	Number of children
Walk	12
Car	7
Bicycle	9
Bus	4

Ivan wants to draw a pie chart to show this information.

Find the sector angle for children who walk to school.

..... [2]

- 9 Rashid changes 30 000 rupees to dollars when the exchange rate is \$1 = 68.14 rupees.

How many dollars does he receive?

\$ [2]

- 10 Complete the statements.

3.5 kg = g

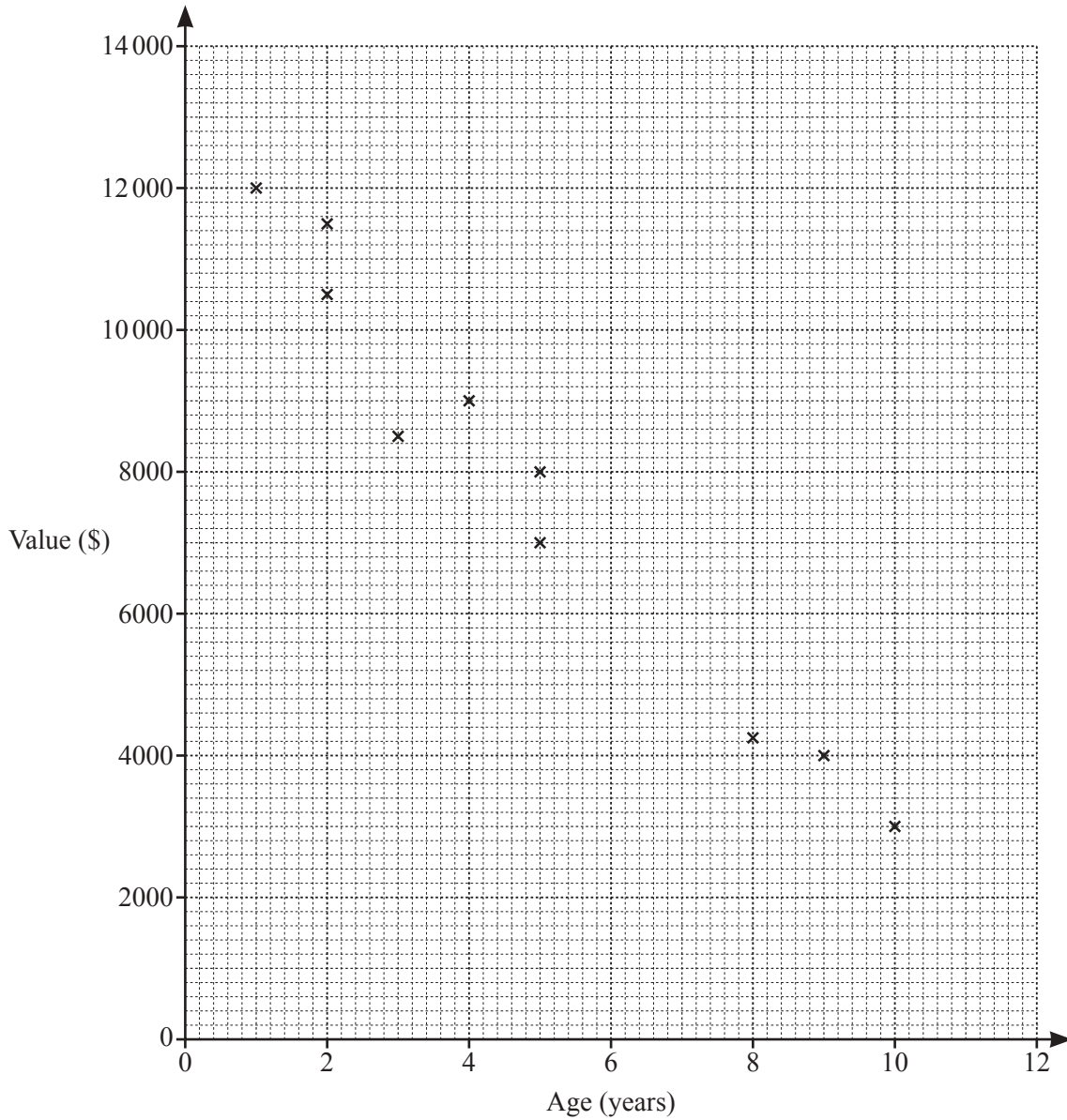
1.4 m² = cm² [2]

- 11 Kiran leaves home at 9.45 am.
She drives 135 km to visit a friend.
She arrives at her friend's house at 11.15 am.

Work out her average speed in km/h.

..... km/h [2]

12 The scatter diagram shows the age and value of each of ten cars, all of the same model.



By drawing a line of best fit, estimate the value of a car that is 6 years old.

\$ [2]

13 Find the value of

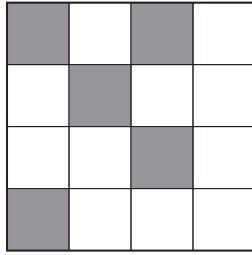
(a) $6^0 + 6^2$,

..... [1]

(b) 5^{-4} .

..... [1]

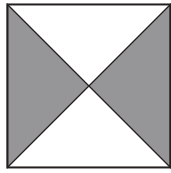
14 (a)



Shade two more small squares to give a pattern with exactly one line of symmetry.

[1]

(b)



Complete the description of this pattern.

The pattern has lines of symmetry

and order of rotational symmetry

[2]

15 These are the number of texts sent one day by each of 10 students.

18 13 15 8 9 17 12 8 6 14

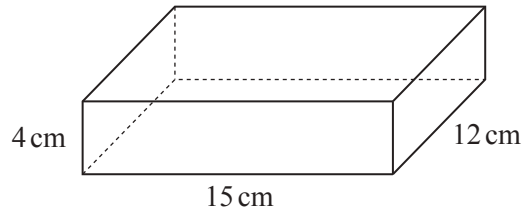
(a) Write down the mode.

..... [1]

(b) Calculate the mean.

..... [2]

16

NOT TO
SCALE

The diagram shows a cuboid measuring 15 cm by 12 cm by 4 cm.

Calculate the surface area of the cuboid.

..... cm² [3]

17 **Without using a calculator**, work out $3\frac{5}{8} - 1\frac{2}{3}$.

You must show all your working and give your answer as a mixed number in its simplest form.

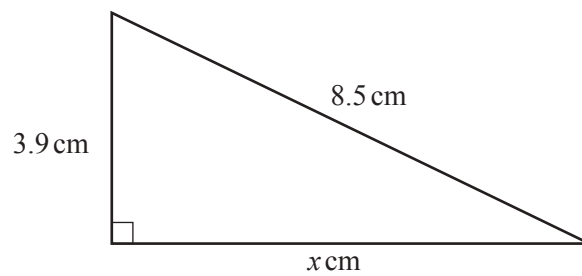
..... [3]

18 Javier invests \$750 for 3 years at a rate of 1.8% per year compound interest.

Calculate the value of his investment at the end of the 3 years.

\$ [3]

19



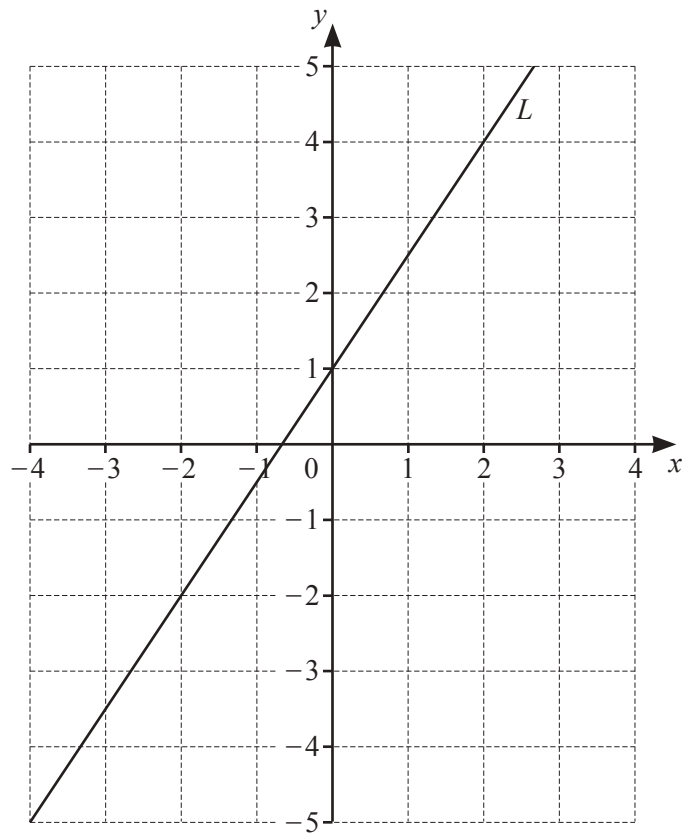
NOT TO
SCALE

The diagram shows a right-angled triangle.

Calculate the value of x .

$x =$ [3]

20 The line L is shown on the grid.



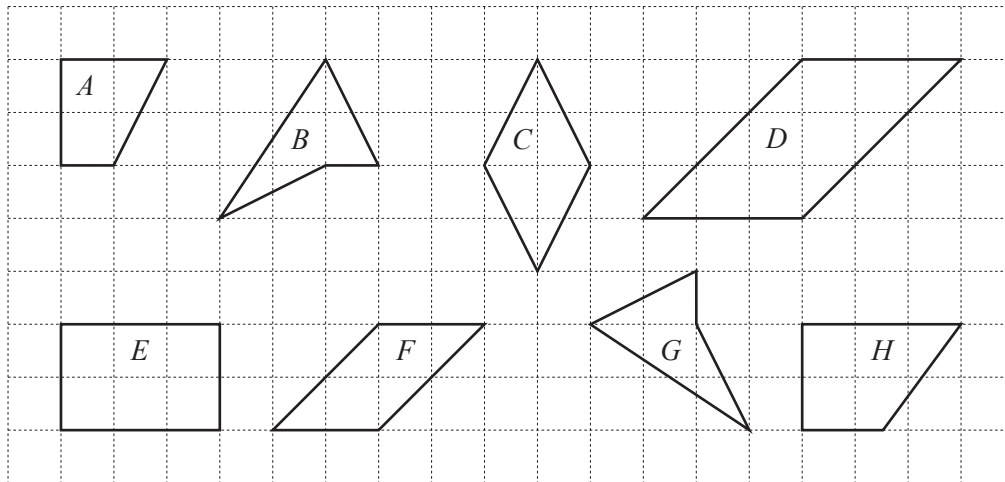
(a) Find the gradient of the line L .

..... [2]

(b) Find the equation of the line L in the form $y = mx + c$.

$y =$ [1]

21



The diagram shows some quadrilaterals.

Complete the statements.

- (a) Quadrilateral is a rhombus. [1]
- (b) Quadrilateral *A* is a [1]
- (c) Quadrilaterals and are congruent. [1]
- (d) Quadrilaterals and are similar. [1]

22 Esme buys x magazines at \$2.45 each and y cards at \$3.15 each.

- (a) Write down an expression, in terms of x and y , for the total cost, in dollars, of the magazines and the cards.

\$ [2]

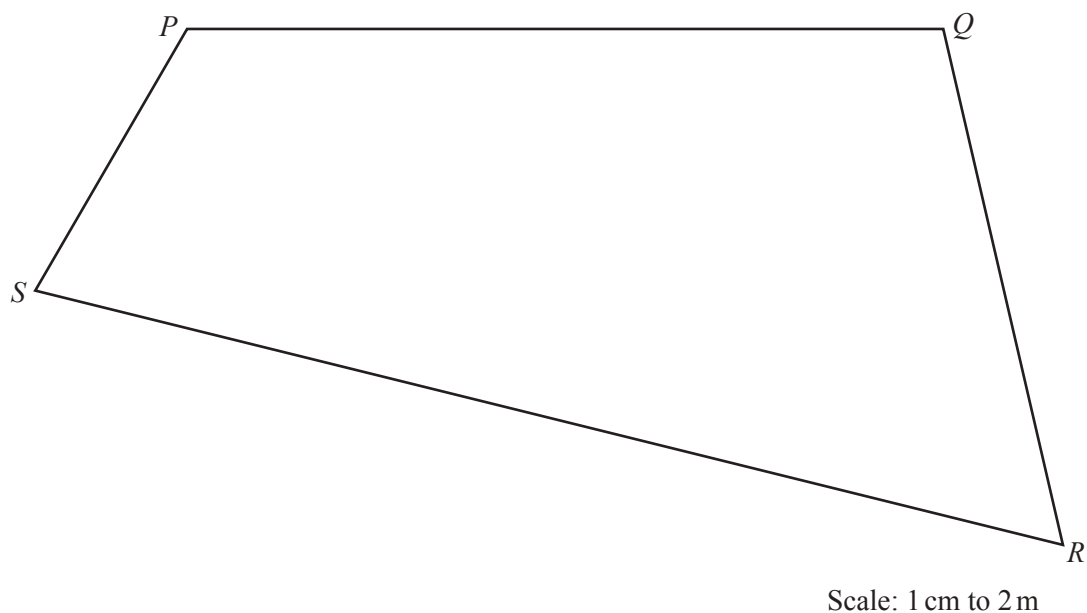
- (b) Esme spends \$60.55 in total.
She buys 8 magazines.

How many cards does she buy?

..... [2]

Question 23 is printed on the next page.

- 23 The diagram shows a scale drawing of Lei's garden, $PQRS$.
The scale is 1 centimetre represents 2 metres.



Lei has a bird table in the garden that is

- equidistant from PQ and QR

and

- 13 m from R .

On the diagram, construct the position of the bird table.

Use a ruler and compasses only and show all your construction arcs.

[4]

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