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1943576231

MATHEMATICS **0580/33**

Paper 3 Calculator (Core) **October/November 2025**

1 hour 30 minutes

You must answer on the question paper.

You will need: Geometrical instruments

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should use a scientific calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages.

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List of formulas

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle of radius r.	$A = \pi r^2$
Circumference, C, of circle of radius r.	$C = 2\pi r$
Curved surface area, A, of cylinder of radius r, height h.	$A = 2\pi rh$
Curved surface area, A, of cone of radius r, sloping edge l.	$A = \pi rl$
Surface area, A, of sphere of radius r.	$A = 4\pi r^2$
Volume, V, of prism, cross-sectional area A, length l.	$V = Al$
Volume, V, of pyramid, base area A, height h.	$V = \frac{1}{3}Ah$
Volume, V, of cylinder of radius r, height h.	$V = \pi r^2 h$
Volume, V, of cone of radius r, height h.	$V = \frac{1}{3}\pi r^2 h$
Volume, V, of sphere of radius r.	$V = \frac{4}{3}\pi r^3$

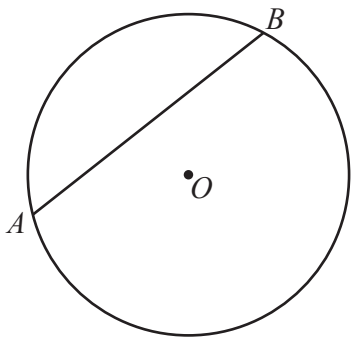
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1 Write down all the factors of 26.

..... [2]

2



A and B lie on a circle, centre O.

(a) Write down the mathematical name of the line AB.

..... [1]

(b) On the diagram, draw a radius. [1]

3 **(a)** Write 0.25 as a fraction.

..... [1]

(b) Write $\frac{1}{2}$ as a percentage.

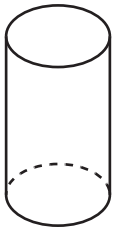
.....% [1]

(c) Write 7% as a decimal.

..... [1]

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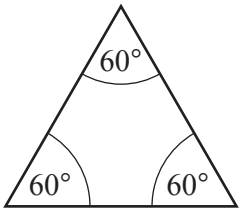
4 **(a)**



Write down the mathematical name of this solid.

..... [1]

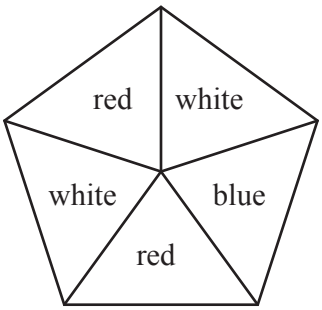
(b)



Write down the mathematical name of this type of triangle.

..... [1]

5



The diagram shows a fair 5-sided spinner.
The spinner is spun once.

(a) Write down the colour the spinner is least likely to land on.

..... [1]

(b) Find the probability that the spinner lands on white.

..... [1]

(c) Find the probability that the spinner does not land on red.

..... [1]

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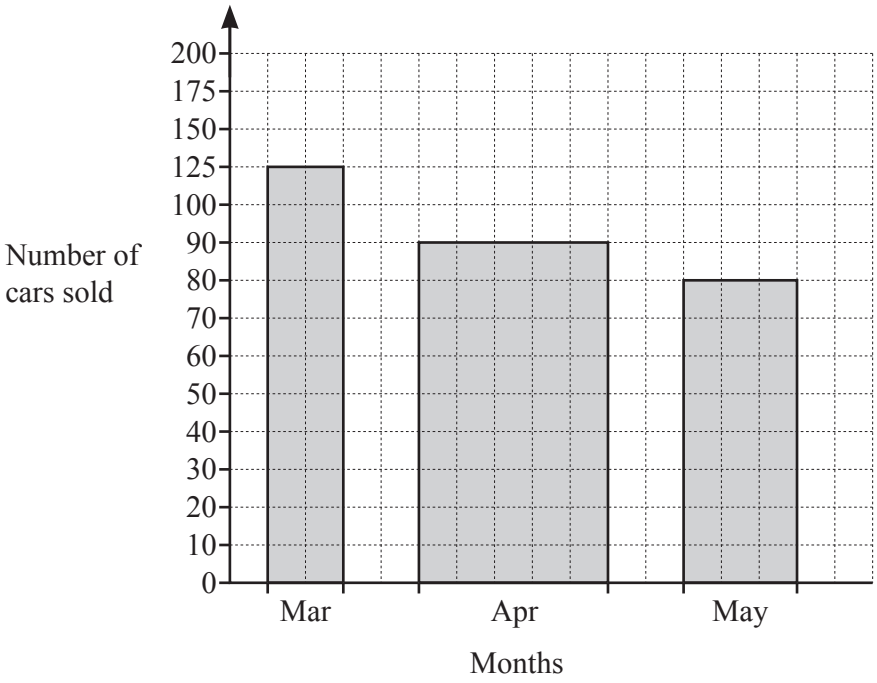
6 **(a)** Write down the reciprocal of 8.

..... [1]

(b) Work out 19^3.

..... [1]

7



A newspaper prints this bar chart to show the number of cars sold by a garage in March, April and May.

Give two reasons why the bar chart is incorrect.

1 .....

.....

2 .....

.....

[2]

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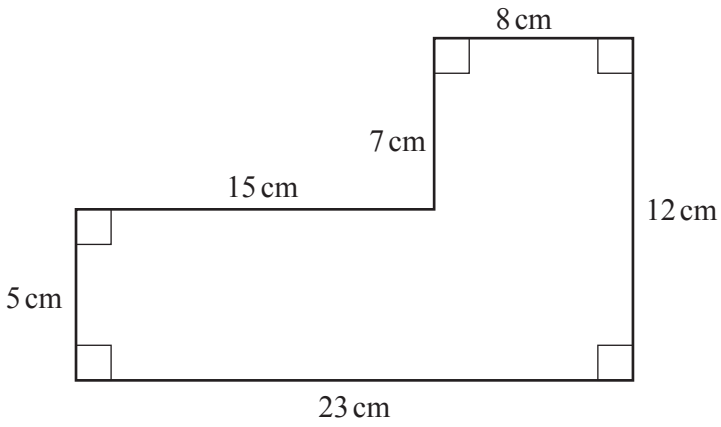
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8 Work out the number of seconds in six and a half hours.

..... seconds [1]

9



NOT TO SCALE

Find the area of the shape.

..... cm^2 [2]

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10 **(a)** Jason records his score in each of 10 games of cricket.

16	7	21	8	20	9	11	7	14	3

(i) Find the mode.

..... [1]

(ii) Work out the range.

..... [1]

(b) Ed plays 5 games.
His mean score is 28.
After one more game his mean score is now 26.

Work out his score in the sixth game.

..... [2]

11 Calculate 19% of \$46.25 .
Give your answer correct to the nearest cent.

\$ ..... [2]

12 **(a)** Simplify.

$5b - 8c + 2b - 3c$

..... [2]

(b) $q = 3r + 5t$

Find the value of t when $q = 37$ and $r = 4$.

$t =$ ..... [2]

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13 Divide \$136 in the ratio 3 : 5.

\$..... , \$..... [2]

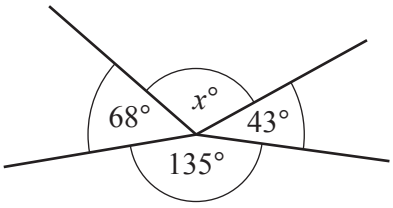
14 Carl packs pens into boxes.
Each box holds 68 pens.
Carl has 980 pens and 14 boxes.

Does Carl have enough boxes to pack all the pens?
Show how you decide.

..... because .....

..... [2]

15

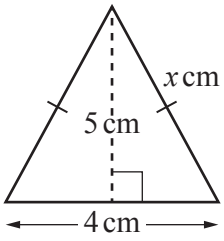


NOT TO SCALE

Find the value of x.

$x =$ ..... [1]

16



NOT TO SCALE

The diagram shows an isosceles triangle.

(a) Calculate the value of x.

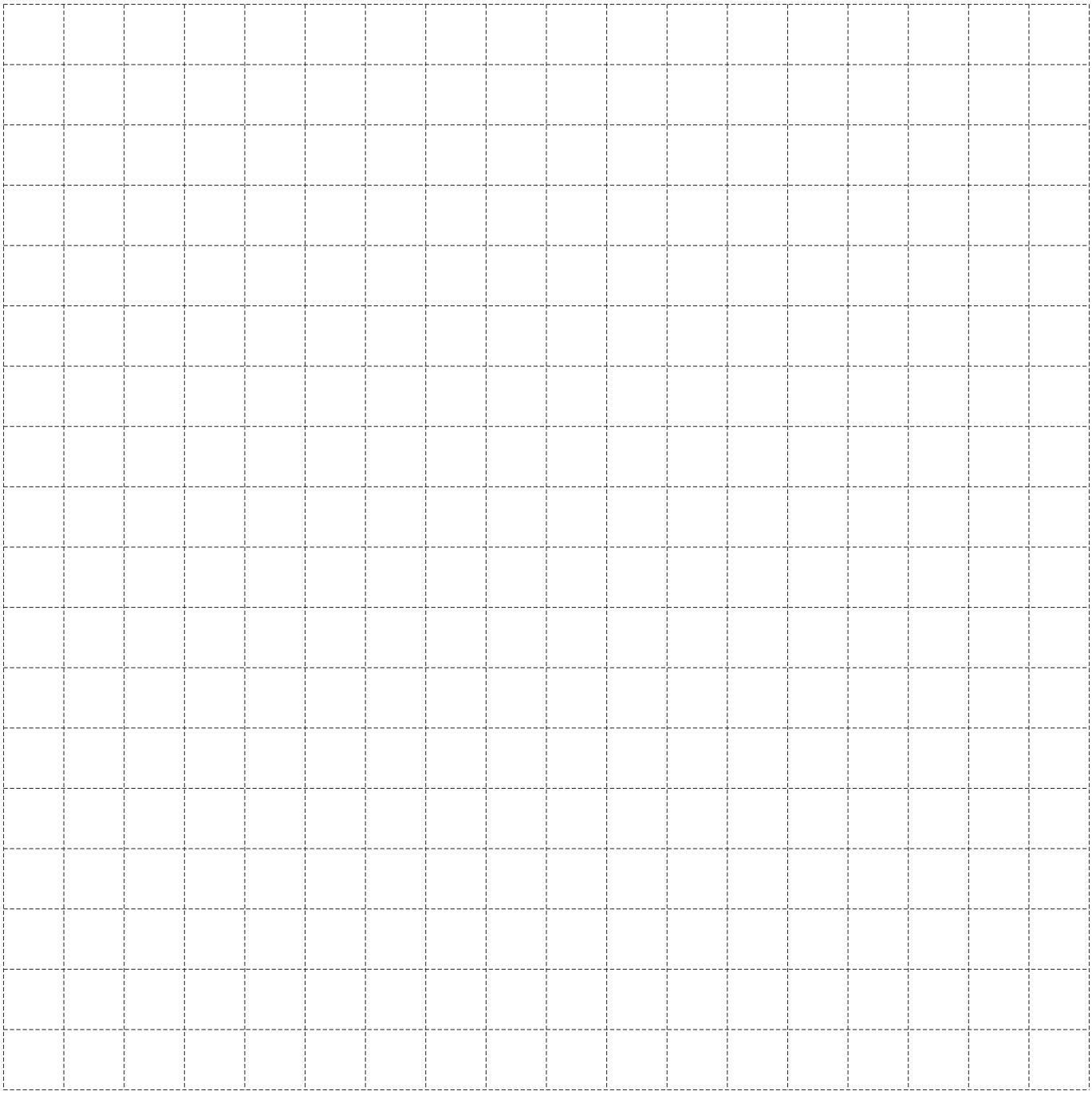
$x =$ ..... [2]

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(b) The triangle is one face of a square-based pyramid.

Each triangular face of the pyramid is the same.

On the 1 cm^2 grid, draw a net of this pyramid.



[3]

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17 Write 46.179 correct to 4 significant figures.

..... [1]

18 Calculate.

(a) $\sqrt{\dfrac{8.4^2+9.3}{26.5}}$

..... [1]

(b) 4^{-3}

..... [1]

19 Expand and simplify.

$$3(5x+2)-4(x+1)$$

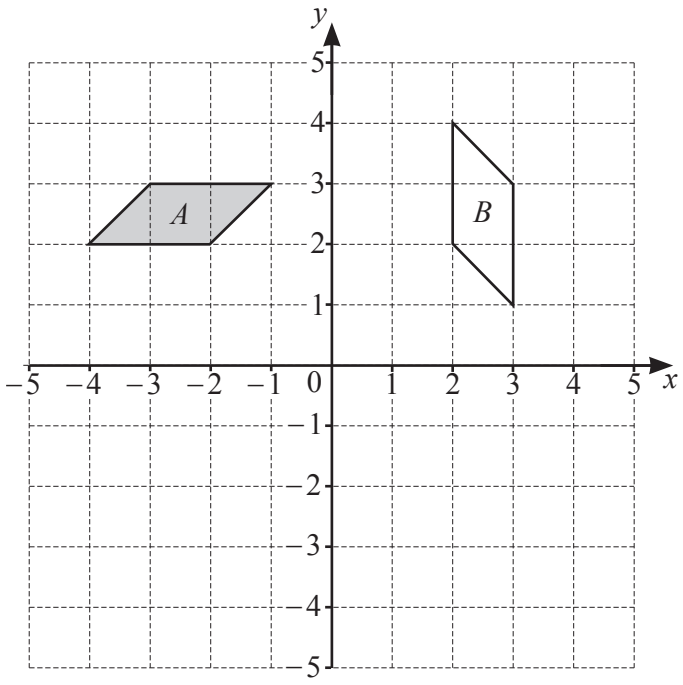
..... [2]

20 *Due to an issue with question 20, the question has been removed from the question paper.*

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21 The diagram shows shapes A and B.



(a) Describe fully the **single** transformation that maps shape A onto shape B.

.....

..... [3]

(b) On the grid, draw the image of shape A after a reflection in the line $y = 0$. [2]

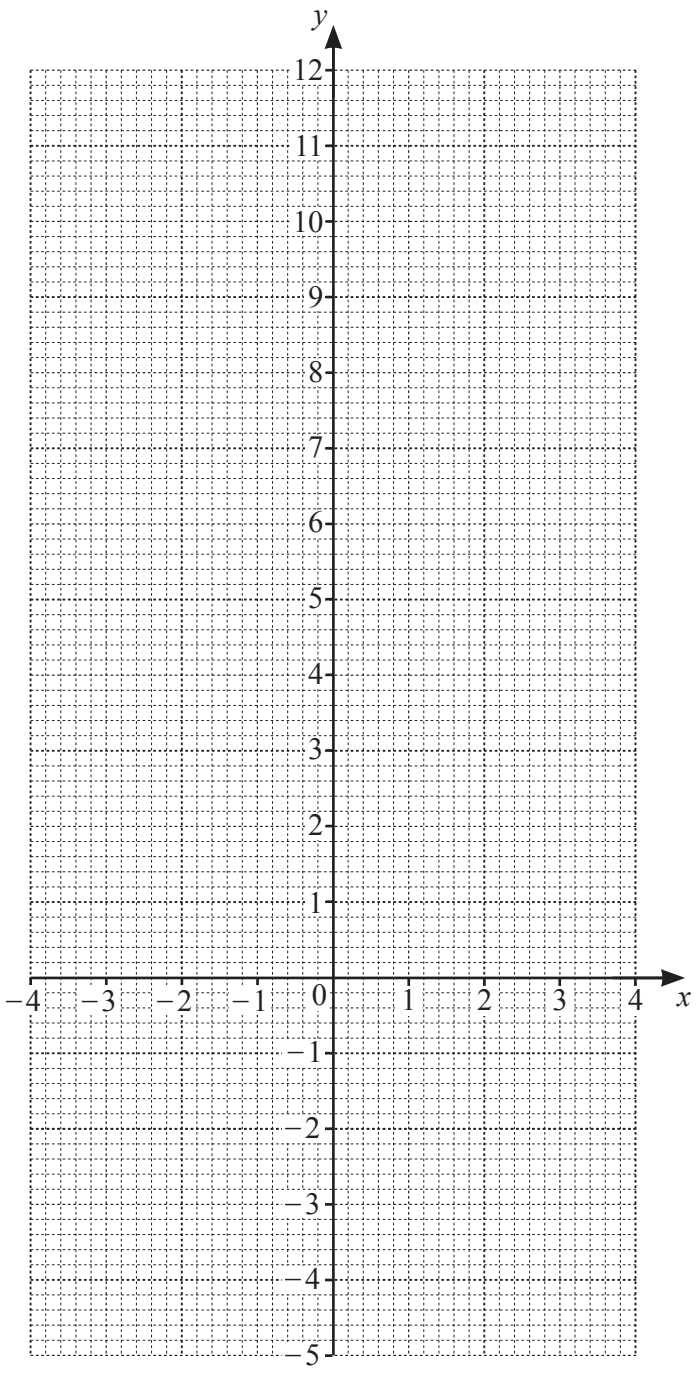
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22 **(a)** Complete the table of values for $y = x^2 - 4$.

x	–4	–3	–2	–1	0	1	2	3	4
y	12		0	–3		–3	0		12

[2]

(b) On the grid, draw the graph of $y = x^2 - 4$ for $-4 \leqslant x \leqslant 4$.



[4]

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23 **(a)** Jo buys a candle for \$3.20 .
She sells the candle for \$4.64 .

Find the percentage profit on the candle.

..... % [2]

(b) The candle is in the shape of a cone.
The volume of the candle is $900\,\text{cm}^3$.
The height of the candle is 8 cm.

Calculate the radius of the candle.

..... cm [3]

24 Make p the subject of the formula $m = 9p + 32$.

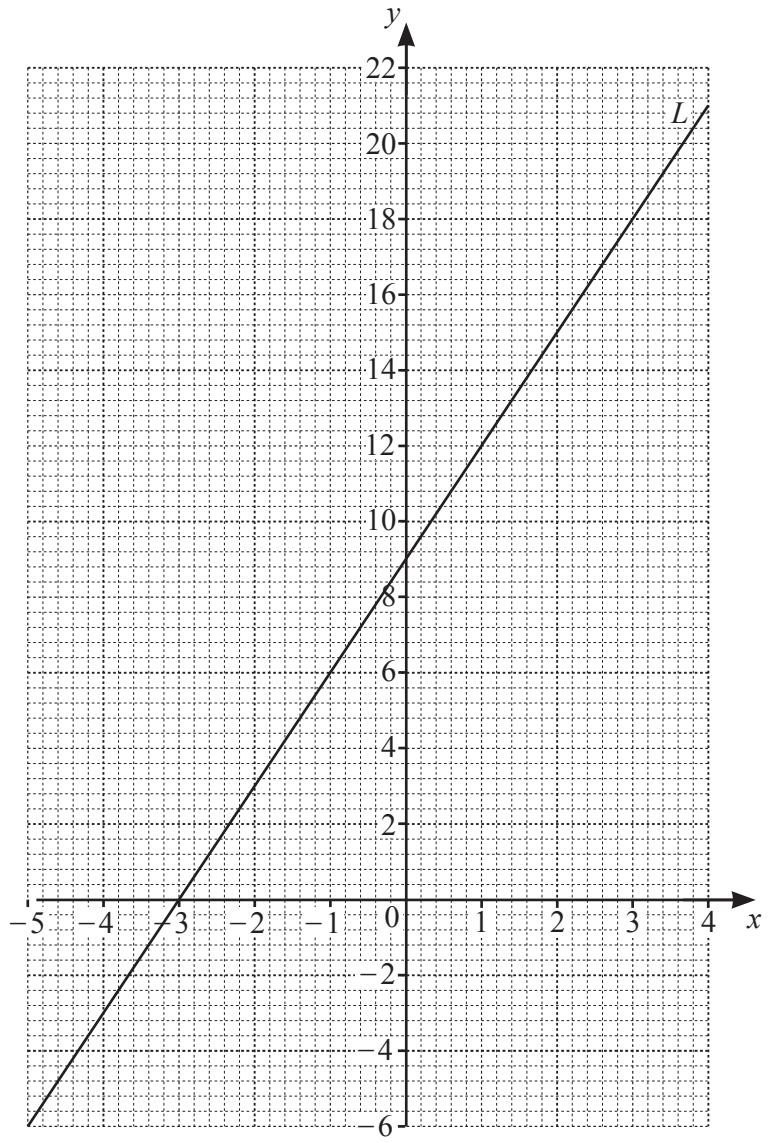
$p =$ ..... [2]

25 Find the lowest common multiple (LCM) of 20 and 36.

..... [2]

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26 Line L is drawn on the grid.



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

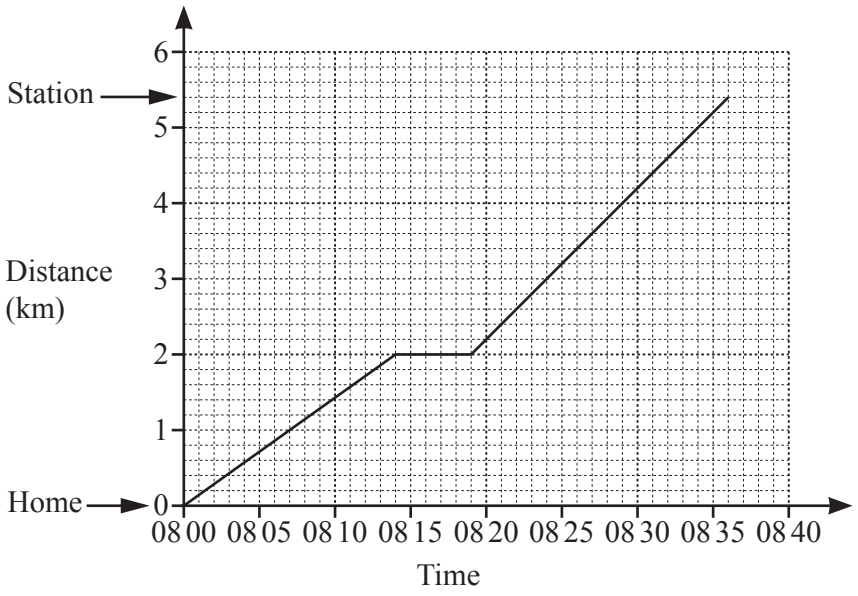
$y =$ ..... [3]

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27 *Due to an issue with question 27, the question has been removed from the question paper.*

28 The travel graph shows Chi's journey from home to the station.



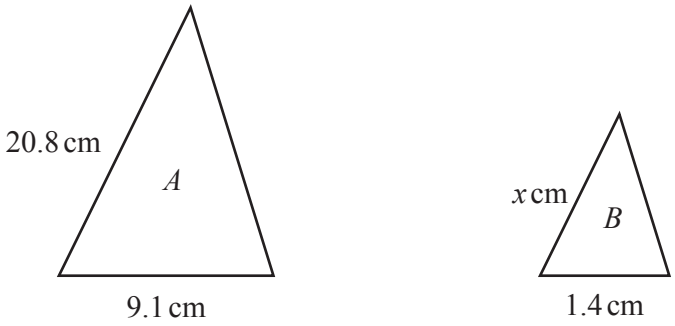
Calculate Chi's average speed for the whole journey.
Give your answer in kilometres per hour.

..... km/h [3]

Question 29 is printed on the next page.

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29 (a)



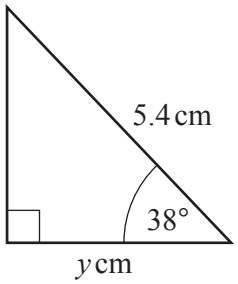
NOT TO SCALE

The diagram shows two similar triangles, A and B.

Calculate the value of x.

$x =$ ..... [2]

(b)



The diagram shows a right-angled triangle.

Calculate the value of y.

$y =$ ..... [2]

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