

- 1 Write 75% as a fraction in its simplest form.

..... [1]

- 2 Factorise.
 $w + w^3$

..... [1]

- 3 Liz takes 65 seconds to run 400 m.
Calculate her average speed.

..... m/s [1]

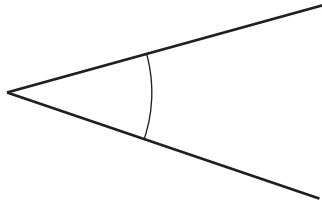
- 4 Calculate.
 $\sqrt{\frac{18^2}{0.5 + 1.75}}$

..... [1]

- 5 Work out the value of 4^{-2} .

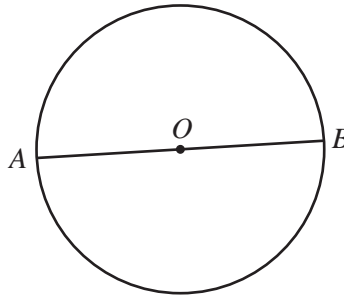
..... [1]

6 (a) Write down the mathematical name of the type of angle marked.



..... [1]

(b) A and B are points on the circumference of a circle, centre O .



Write down the mathematical name of the line AB .

..... [1]

7 Write these numbers in order, starting with the smallest.

$\frac{4}{15}$

26%

0.24

$\frac{1}{4}$

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

8 Complete the list of factors of 36.

1, 2,, 36 [2]

9 Increase \$22 by 15%.

\$..... [2]

10 (a) Write 209 802 correct to the nearest thousand.

..... [1]

(b) Write 4123 correct to 3 significant figures.

..... [1]

11 Jez and Soraya share \$2500 in the ratio Jez : Soraya = 7 : 3.

Work out how much Soraya receives.

\$..... [2]

12 The probability that Kim wins a game is 0.72 .
In one year Kim will play 225 games.

Work out an estimate of the number of games Kim will win.

..... [2]

13 (a) Write 4.82×10^{-3} as an ordinary number.

..... [1]

(b) Write 52 million in standard form.

..... [1]

14 Solve.

$$\frac{1-p}{3} = 4$$

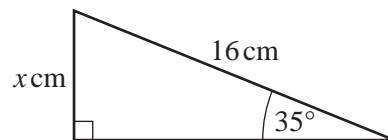
$$p = \dots\dots\dots [2]$$

15 The mass, m kilograms, of a package is 6.2 kg, correct to 1 decimal place.

Complete the statement about the value of m .

$$\dots\dots\dots \leq m < \dots\dots\dots [2]$$

16



NOT TO
SCALE

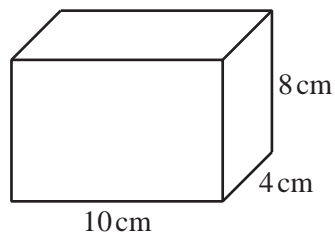
The diagram shows a right-angled triangle.

Calculate the value of x .

$$x = \dots\dots\dots [2]$$

6

- 17 The diagram shows a cuboid.



NOT TO
SCALE

Work out the surface area of this cuboid.

.....cm² [3]

- 18 Without using a calculator, work out $\frac{2}{3} \div 1\frac{1}{5}$.

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

..... [3]

19 (a) Work out.

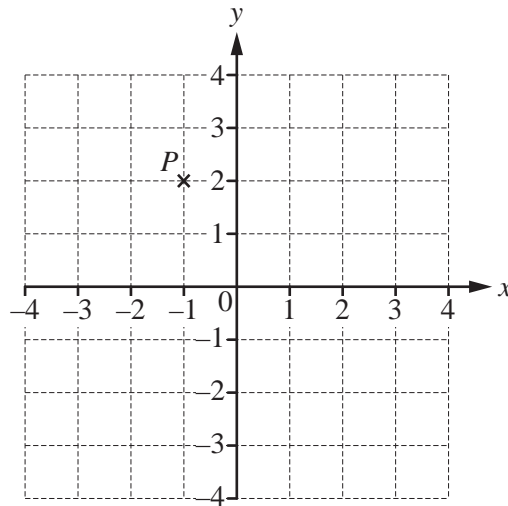
(i) $\begin{pmatrix} 5 \\ -1 \end{pmatrix} + \begin{pmatrix} 2 \\ 6 \end{pmatrix}$

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

(ii) $4 \begin{pmatrix} -5 \\ 2 \end{pmatrix}$

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

(b)



P is the point $(-1, 2)$ and $\overrightarrow{PQ} = \begin{pmatrix} 4 \\ -3 \end{pmatrix}$.

Find the co-ordinates of Q .

(.....,) [1]

- 20 (a) Line L has the equation $y = 5x + 12$.

Write down the gradient of line L .

..... [1]

- (b) Another line, M , has the equation $y = 8x + 3$.

Write down the equation of the line parallel to line M that passes through the point $(0, 6)$.

..... [2]

21 (a) Change 568 000 cm into metres.

..... m [1]

(b) The scale drawing shows the positions of two towns, *A* and *B*.
The scale is 1 centimetre represents 5 kilometres.



Scale : 1 cm to 5 km

(i) Measure the bearing of town *B* from town *A*.

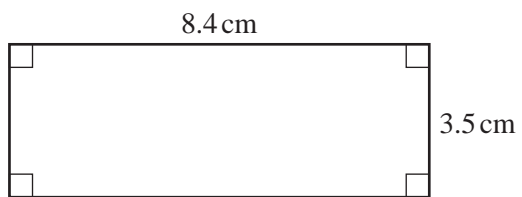
..... [1]

(ii) Find the actual distance, in kilometres, from town *A* to town *B*.

..... km [2]

22 Work out the area of each shape.

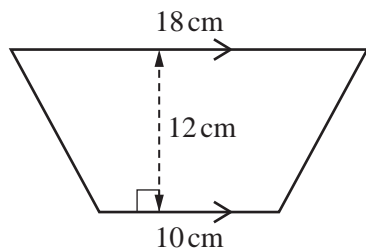
(a)



NOT TO SCALE

.....cm² [2]

(b)



NOT TO SCALE

.....cm² [2]

- 23 Solve the simultaneous equations.
You must show all your working.

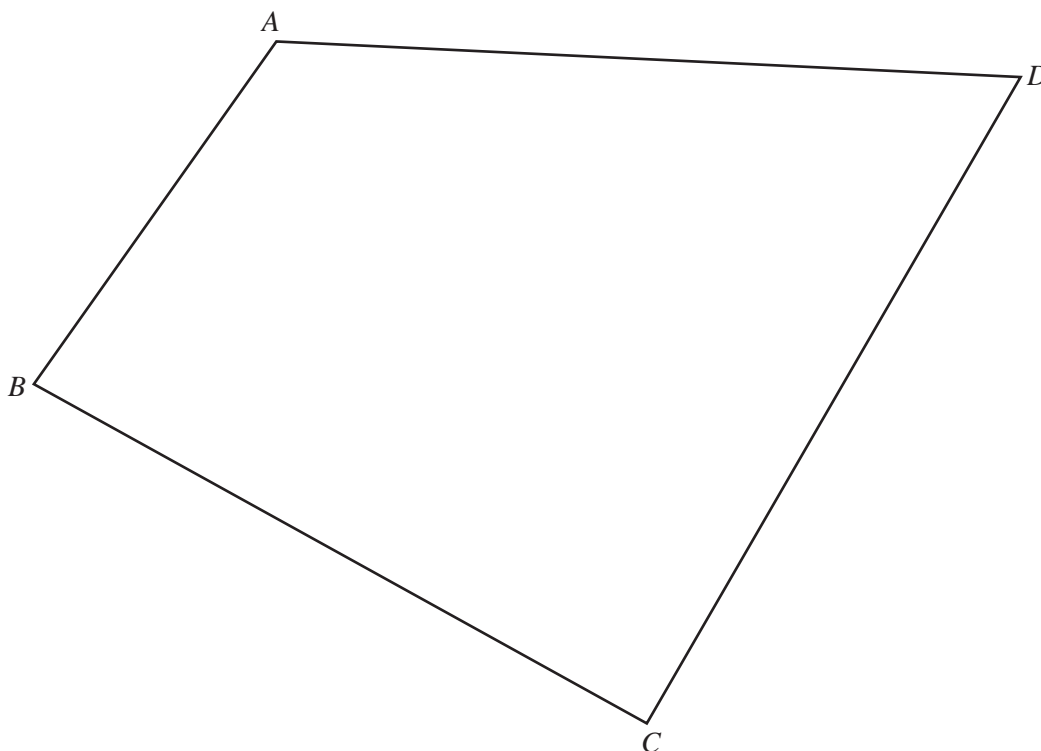
$$\begin{aligned}3x - 2y &= 23 \\ 2x + 5y &= 9\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots [4]$$

Question 24 is printed on the next page.

24 $ABCD$ is a quadrilateral.



- (a) **Using a straight edge and compasses only**, construct the perpendicular bisector of BC .
Show all your construction arcs. [2]
- (b) **Using a straight edge and compasses only**, construct the bisector of angle BCD .
Show all your construction arcs. [2]
- (c) Shade the region inside $ABCD$ that is
- nearer to B than to C
- and
- nearer to CD than to BC .
- [1]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.