GradeMax

* 0000800000001 * DFD

CAMBRIDGE
International Education

Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

2849740121

MATHEMATICS **0580/23**

Paper 2 Non-calculator (Extended) **May/June 2026**

2 hours

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. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages.

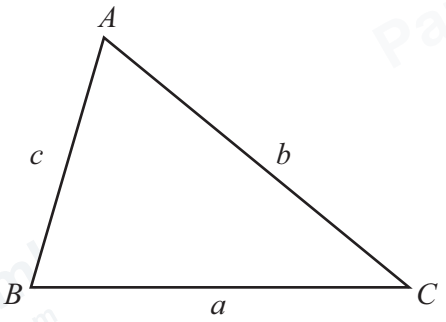
DC (WW/CB) 355397/5
© Cambridge University Press & Assessment 2026

[Turn over

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.	$V = \frac{4}{3}\pi r^3$
For the equation $ax^2 + bx + c = 0$, where $a \neq 0$,	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

For the triangle shown,



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc\cos A$$

$$\text{Area} = \frac{1}{2}ab\sin C$$

© Cambridge University Press & Assessment 2026

GradeMax

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

DO NOT WRITE IN THIS MARGIN

GradeMax

Calculators must **not** be used in this paper.

1 Write \$30 as a percentage of \$120.

..... % [2]

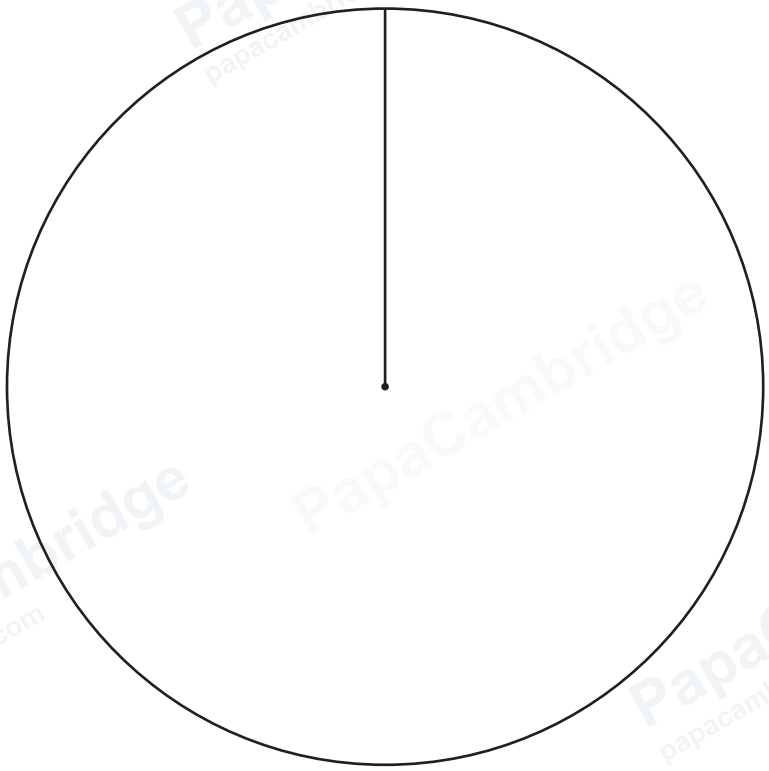
2 The table shows information about the favourite drink of each of 60 students.

favourite drink	number of students	pie chart angle
tea	24	144°
chocolate	4	
coffee	32	

(a) Complete the table.

[2]

(b) Draw a pie chart to show the information in the table.

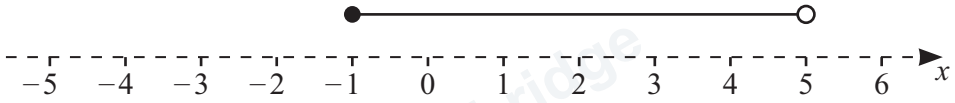


[2]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

3



Write down the inequality shown by the number line.

..... [2]

4 These are the wages of 8 office workers.

$220 $210 $850 $265 $245 $230 $245 $235

(a) Work out the median.

$ ..... [2]

(b) Give a reason why the mean may not be a suitable average to represent the data.

.....

..... [1]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

GradeMax

5 Reem has a six-sided spinner numbered 1 to 6.
Reem spins the spinner 50 times.
Her results are shown in the table.

number on spinner	1	2	3	4	5	6
frequency	8	7	5	9	12	9

(a) Write down the relative frequency of the spinner landing on the number 4.

..... [1]

(b) Reem spins the spinner 200 times.

Find how many of these 200 spins are expected to land on the number 4.

..... [1]

6 A red light flashes every 20 minutes.
A blue light flashes every 35 minutes.
The two lights flash together at 10 00.

Find the next time that the two lights flash together.

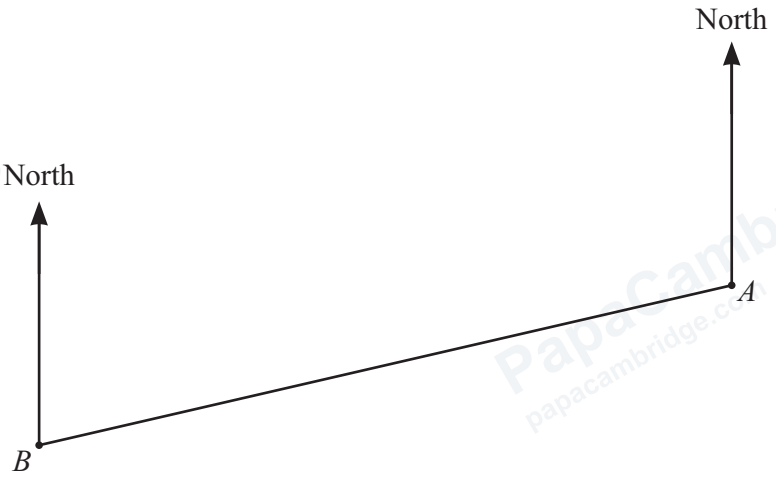
..... [3]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

7 The diagram shows the position of two towns, A and B.

The scale is 1 cm represents 2 km.



scale: 1 cm to 2 km

(a) Work out the actual distance between A and B.

..... km [2]

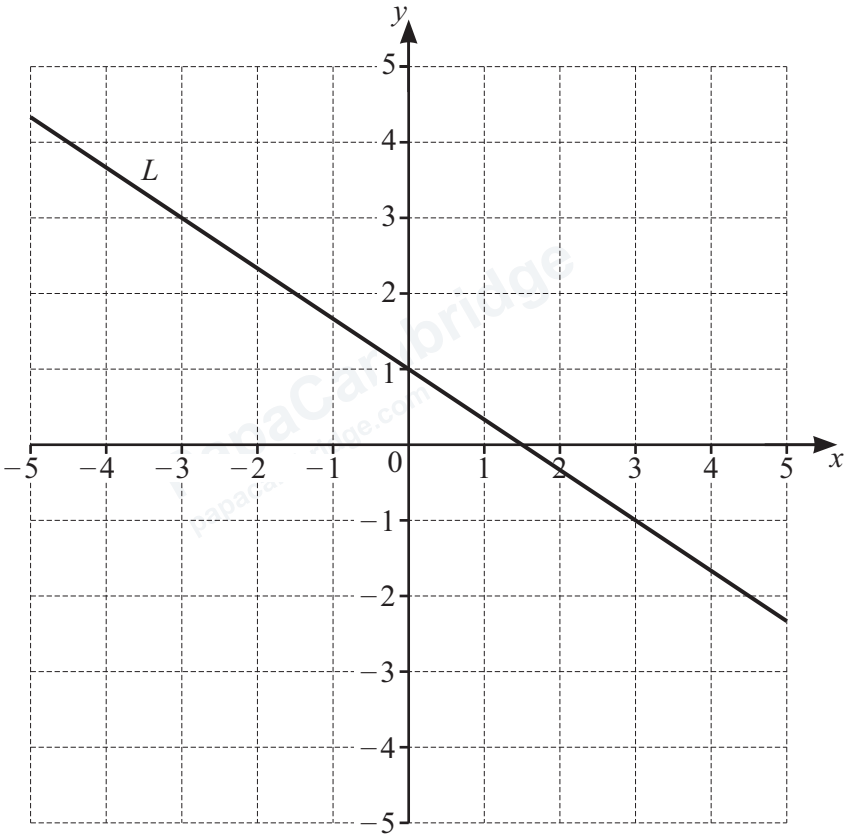
(b) Find the bearing of B from A.

..... [1]

© Cambridge University Press & Assessment 2026

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

8 The line L is shown on the grid.



(a) Find the gradient of line L.

..... [2]

(b) On the grid, draw the line $y - 2x + 3 = 0$.

[2]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

9 **(a)** Write 7.83×10^{-2} as an ordinary number.

..... [1]

(b) Work out.

$$(5.5 \times 10^{6}) \times (2 \times 10^{-3})$$

Give your answer in standard form.

..... [2]

10 The position vector of A is $\begin{pmatrix} 4 \\ -1 \end{pmatrix}$ and $\overrightarrow{AB} = \begin{pmatrix} -7 \\ 5 \end{pmatrix}$.

Find the position vector of B.

( ) [1]

11 The interior angle of a regular polygon is 135°.

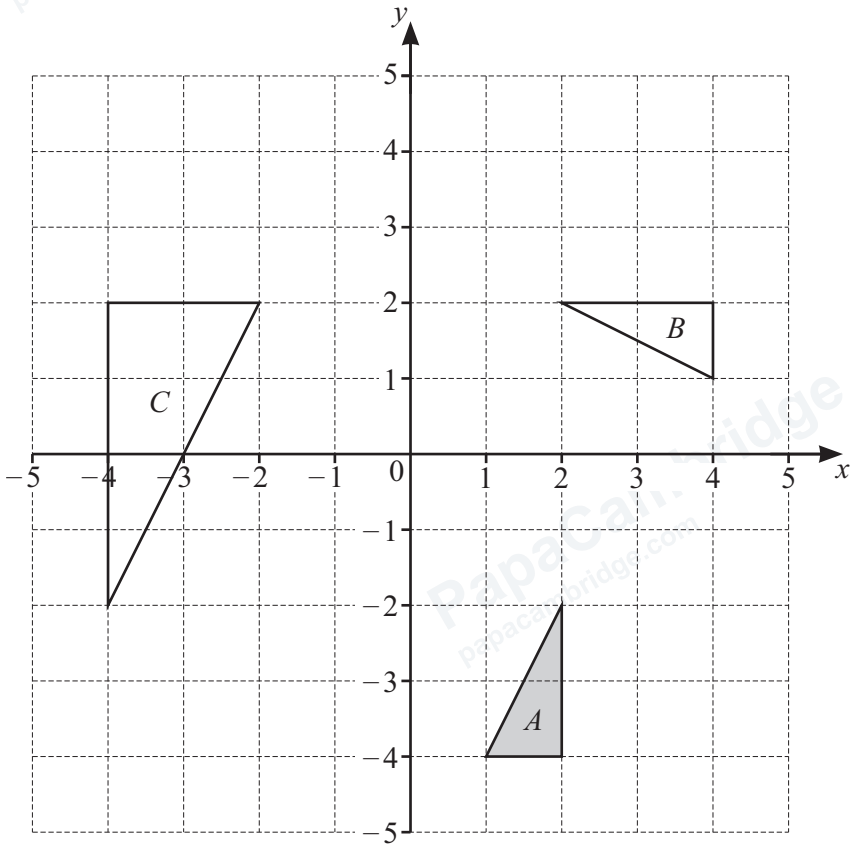
Find the number of sides of this regular polygon.

..... [2]

© Cambridge University Press & Assessment 2026

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

GradeMax



(a) Describe fully the **single** transformation that maps

(i) triangle A onto triangle B

.....

..... [3]

(ii) triangle A onto triangle C.

.....

..... [3]

(b) On the grid, draw the image of

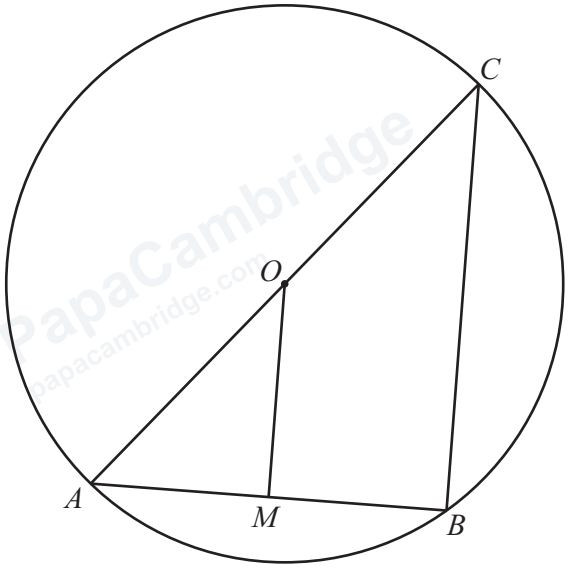
(i) triangle A after a reflection in the y-axis [1]

(ii) triangle A after a translation by the vector $\begin{pmatrix} -1 \\ 3 \end{pmatrix}$. [2]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

13



NOT TO SCALE

A, B and C are points on a circle with centre O.
AOC is a straight line and M is the midpoint of AB.
$AB = 6$ cm and $OM = 4$ cm.

(a) Work out OA.

$OA =$ ..... cm [2]

(b) Give a geometrical reason why angle ABC is 90°.

..... [1]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

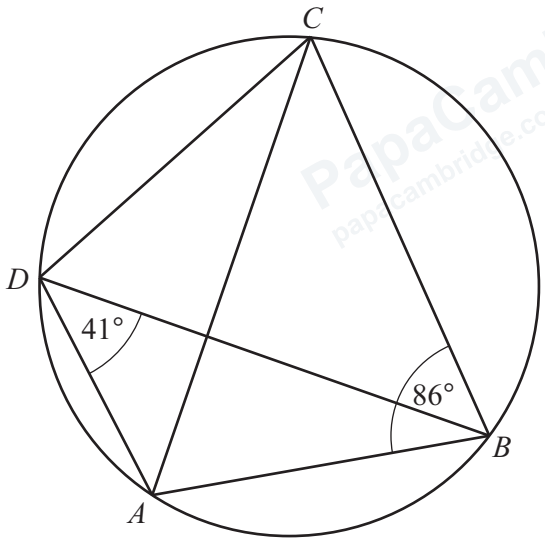
GradeMax

14 A sphere has volume $36\pi\,\text{cm}^3$.

Find the radius of the sphere.

..... cm [2]

15



NOT TO SCALE

The diagram shows a cyclic quadrilateral *ABCD*.

Find

(a) angle *ACB*

angle *ACB* = ... [1]

(b) angle *BDC*.

angle *BDC* = ... [2]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

16 y is inversely proportional to x.
When $y = 5$, $x = 20$.

Find y when $x = 4$.

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

17 **(a)** $c = 4a^2 + 2b$

Find the value of c when $a = -2$ and $b = 3$.

$c =$ ..... [2]

(b) $y = \dfrac{2(x-3)}{x-5}$

Rearrange the formula to write x in terms of y.

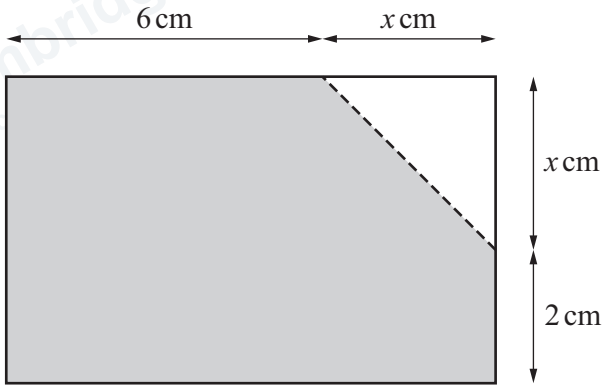
$x =$ ..... [4]

© Cambridge University Press & Assessment 2026

GradeMax
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
PapaCambridge
papacambridge.com

* 0000800000013 * DFD

18



NOT TO SCALE

The diagram shows a rectangle.

The shaded area is $30\,\text{cm}^2$.

(a) Show that $x^2 + 16x - 36 = 0$.

[3]

(b) Solve by factorisation $x^2 + 16x - 36 = 0$ to find the length x cm.

$x =$ ..... cm [3]

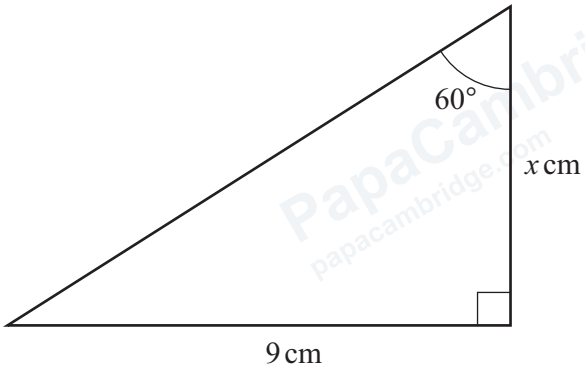
© Cambridge University Press & Assessment 2026

[Turn over

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

GradeMax

19



NOT TO SCALE

Find the exact value of x.

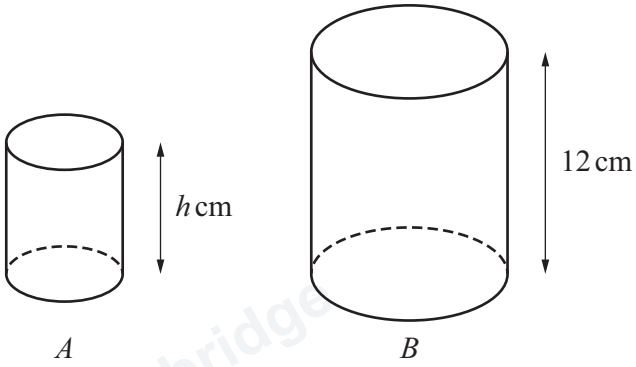
Give your answer in the form $a\sqrt{b}$.

$x =$ ..... [4]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

20



NOT TO SCALE

The two cylinders, A and B, are mathematically similar.
The surface area of A is $80\,\text{cm}^2$ and the surface area of B is $180\,\text{cm}^2$.
The height of A is h cm and the height of B is 12 cm.

Find the value of h.

$h =$ ..... [3]

21 **(a)** Simplify.

$$(\sqrt{0.1})^2$$

..... [1]

(b) Rationalise the denominator.

$$\frac{4}{2-\sqrt{2}}$$

Give your answer in its simplest form.

..... [3]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
GradeMax
PapaCambridge
papacambridge.com

22 **(a)** Simplify.

(i) $(10b^4)^{-3}$

..... [2]

(ii) $(8p^{15})^{\frac{2}{3}}$

..... [2]

(b) $16^n = 64$

Find the value of n.

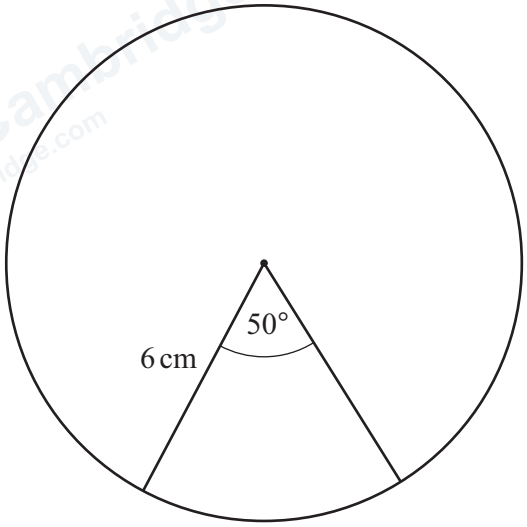
$n =$ ..... [2]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

GradeMax

23



NOT TO SCALE

A minor sector of a circle of radius 6 cm has sector angle 50°.

Find the area of the major sector.
Give your answer in terms of π in its simplest form.

..... cm^2 [3]

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

© Cambridge University Press & Assessment 2026

24 Write as a single fraction in its simplest form.

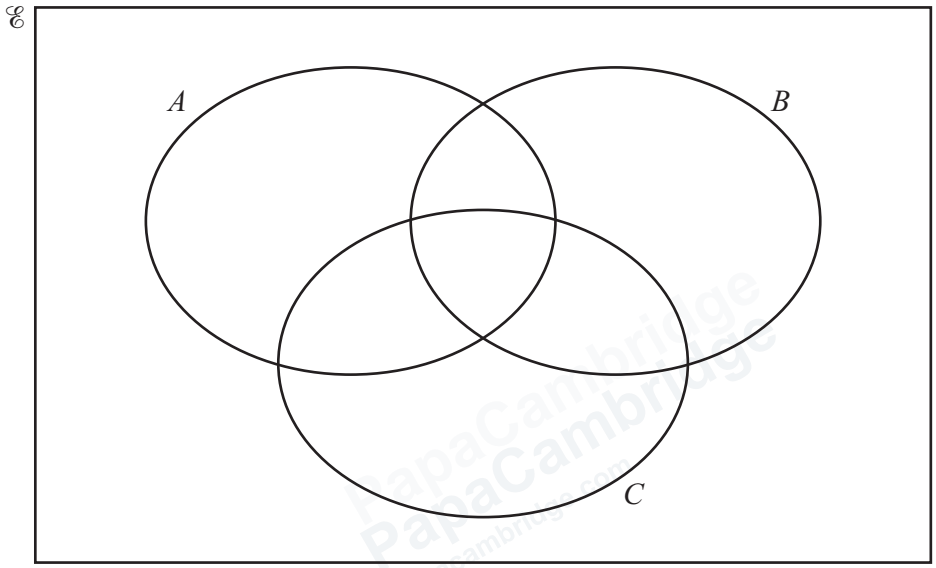
$$\frac{x-2}{x+3}+\frac{x+3}{x-2}$$

..... [4]

25 x is an integer.

$\mathscr{E} = \{x : 1 \leqslant x \leqslant 12\}$
$A = \{x : x \text{ is a square number}\}$
$B = \{x : 4 \leqslant x \leqslant 8\}$
$C = \{x : x \text{ is a factor of } 12\}$

(a) Complete the Venn diagram.



[3]

(b) Find $\text{n}(A \cap B \cap C')$.

..... [1]

© Cambridge University Press & Assessment 2026

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

GradeMax

26 **(a)** Write $3x^2 - 6x + 5$ in the form $a(x+b)^2 + c$.

..... [3]

(b) Write down the coordinates of the turning point of the graph of $y = 3x^2 - 6x + 5$.

(..... , ...) [1]

27 Juan has a bag containing 2 red counters, 3 green counters and 5 blue counters.
Juan picks two counters from the bag at random, without replacement.

Find the probability that the two counters are different colours.

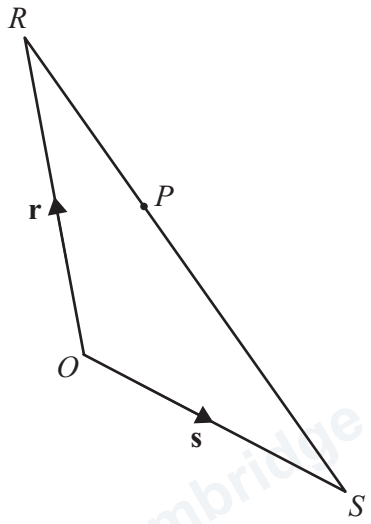
..... [4]

Question 28 is on the back page.

© Cambridge University Press & Assessment 2026

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN

28



NOT TO SCALE

In the diagram, O is the origin, $\overrightarrow{OR} = \mathbf{r}$ and $\overrightarrow{OS} = \mathbf{s}$.
P is a point on RS and $RP : PS = 2 : 5$.

Find the position vector of P.
Give your answer, in terms of **r** and **s**, in its simplest form.

..... [3]

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 (Cambridge University Press & Assessment) 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 our Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge International Education is the name of our awarding body and a part of Cambridge University Press & Assessment, which is a department of the University of Cambridge.

© Cambridge University Press & Assessment 2026

DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN
DO NOT WRITE IN THIS MARGIN