CAMBRIDGE
International Education

# Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

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*7984459352*

**CAMBRIDGE INTERNATIONAL MATHEMATICS** **0607/42**

Paper 4 Calculator (Extended) **February/March 2026**

**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. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- You should use a graphic display calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly. You will be given marks for correct methods, including sketches, even if your answer is incorrect.
- 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 $\pi$, use either your calculator value or 3.142.

**INFORMATION**

- The total mark for this paper is 75.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **16** pages. Any blank pages are indicated.


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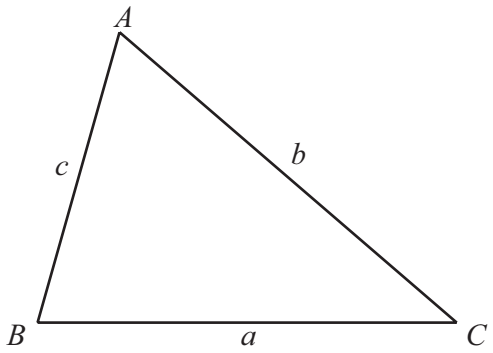
## List of formulas

| | |
|---|---|
| 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 $r$. | $V = \frac{4}{3}\pi r^3$ |
| 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,




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

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

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

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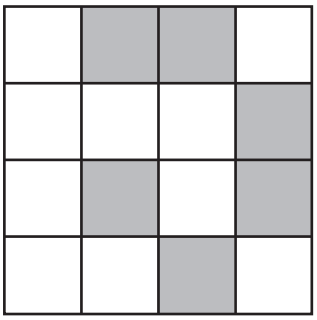
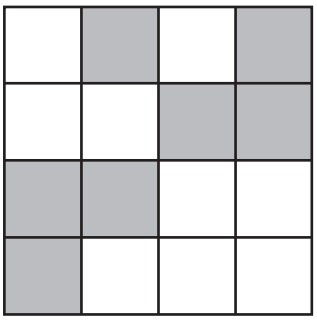
**1** **(a)** Shade 1 small square so that the diagram has 1 line of symmetry.



[1]

**(b)** Shade 1 small square so that the diagram has rotational symmetry of order 2.



[1]

**2** Simplify.

$7a + 3b - 5a - 6b$

..... [2]

**3** $A = 3b - 2c$

Find $b$ when $A = 5.4$ and $c = 1.2$ .

$b =$ ..... [2]

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**4** These are the ingredients for making 20 ginger biscuits.

| ingredient | amount (g) |
|---|---|
| **butter** | 100 |
| **sugar** | 75 |
| **ginger** | 35 |
| **syrup** | 100 |
| **flour** | 250 |

**(a)** Laila makes 48 biscuits.

Work out the amount of sugar Laila needs.

..... g [2]

**(b)** Girish has 100 g of ginger and large amounts of the other ingredients.

Work out the greatest number of biscuits Girish can make.

..... [2]

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**5** **(a)** The $n$th term of a sequence is $n^2 + n$.

Find the first 3 terms of the sequence.

..... , ..... , ..... [2]

**(b)** These are the first 5 terms of a different sequence.

14 11 8 5 2

**(i)** Find the next term.

..... [1]

**(ii)** Find the $n$th term.

..... [2]

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**6** A car travels 120 km at an average speed of 75 km/h.

**(a)** Work out the time taken for the journey.
Give your answer in hours and minutes.

..... h ..... min [3]

**(b)** The car then travels a further 120 km at an average speed of 50 km/h.

Calculate the average speed for the complete journey.

..... km/h [3]

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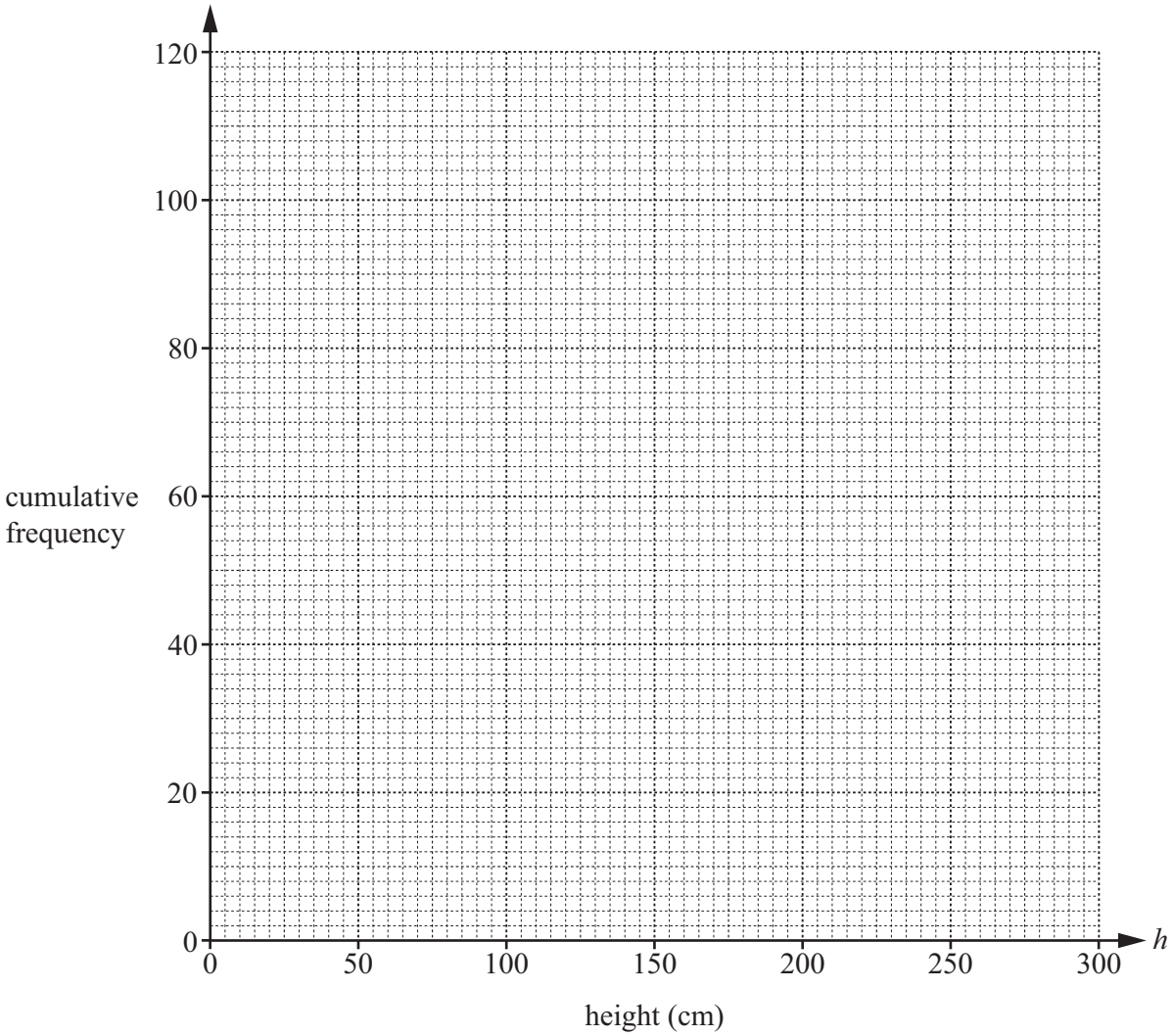
**7** The table shows some information about the heights of 120 trees.

| **height, *h* cm** | $h \leqslant 50$ | $h \leqslant 100$ | $h \leqslant 150$ | $h \leqslant 200$ | $h \leqslant 250$ | $h \leqslant 300$ |
|---|---|---|---|---|---|---|
| **cumulative frequency** | 6 | 16 | 44 | 82 | 108 | 120 |

**(a)** Draw a cumulative frequency diagram to show this information.




[2]

**(b)** Use the diagram to estimate the number of trees with a height of over 230 cm.

..... [2]

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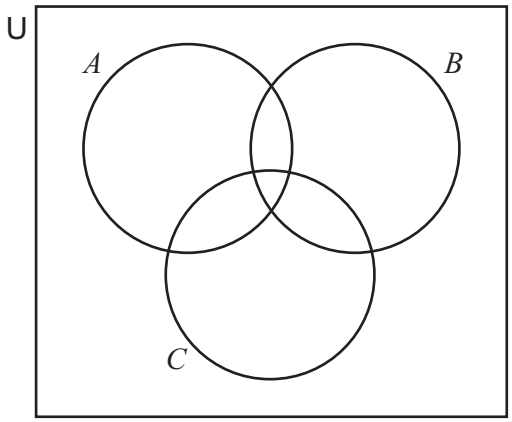
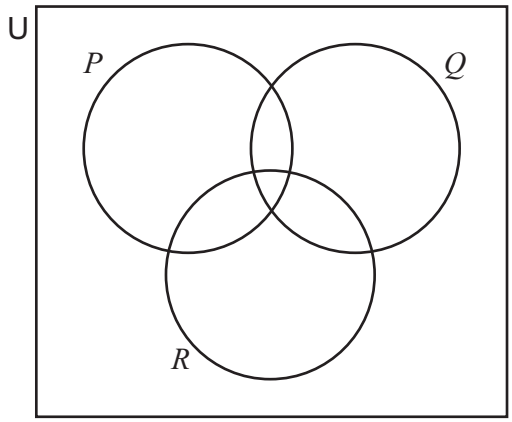
**8** On each Venn diagram, shade the given region.




$A \cap B \cap C'$




$(P \cup R)' \cap Q$

[2]

**9** In a sale, all prices are reduced by 35%.
The sale price of a dress is \$31.07 .

Calculate the original price of the dress.

\$ ..... [2]

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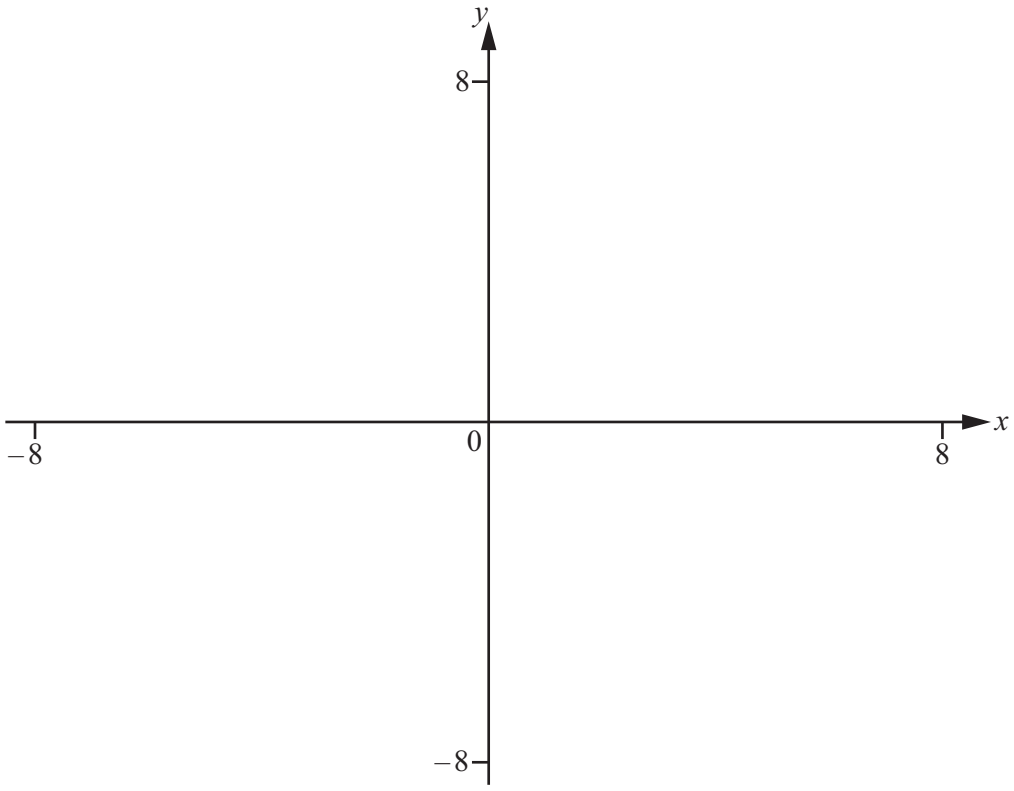
**10**




$$f(x) = \frac{2x}{x^2 + x - 12}$$

**(a)** Sketch the graph of $y = f(x)$ for values of $x$ between $-8$ and 8. [3]

**(b)** Write down the equations of the 3 asymptotes to the graph.

..... , ..... , ..... [3]

**(c)** Solve the inequality $f(x) > 3$.

..... [3]

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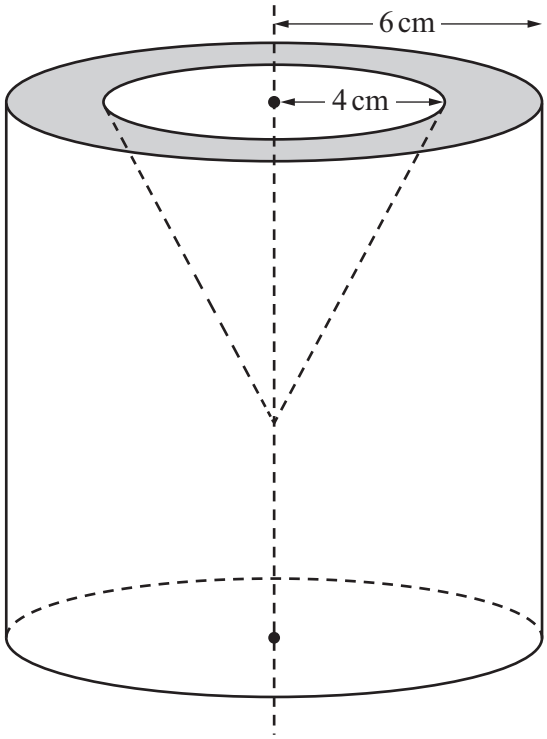
**11** The diagram shows a solid formed from a cylinder with a cone removed.




NOT TO SCALE

The cylinder has a radius of 6 cm and a height of 15 cm.
The cone has a radius of 4 cm and a height of 8 cm.

Calculate the total surface area of the solid.

..... $cm^2$ [6]

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**12** $A$ is the point $(-5, 8)$ and $B$ is the point $(1, -1)$.

**(a)** Calculate the length of $AB$.

$AB =$ ..... [3]

**(b)** The line $AC$ is perpendicular to $AB$.

Find the equation of the line $AC$.

..... [4]

**13** Solve the simultaneous equations.
You must show all your working.

$$\frac{1}{2}x + \frac{1}{3}y = 5$$
$$3x - 2y = 12$$

$x =$ .....

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

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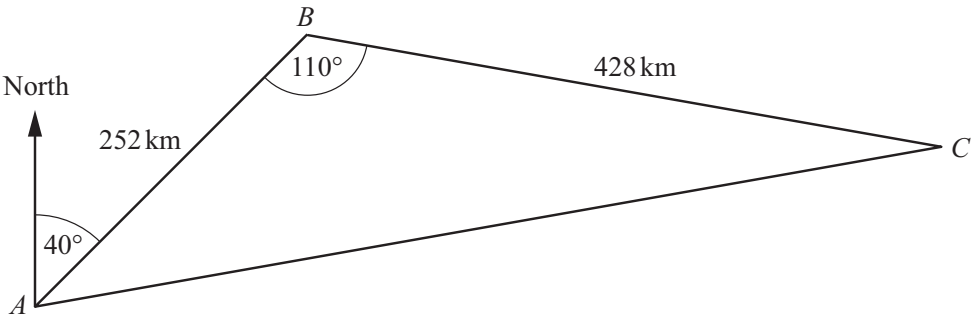
**14** The diagram shows the positions of $A$, $B$ and $C$.

NOT TO SCALE




$AB = 252$ km and $BC = 428$ km.
Angle $ABC = 110°$.
The bearing of $B$ from $A$ is 040°.

**(a)** Calculate $AC$.

$AC =$ ..... km [3]

**(b)** Find the bearing of $C$ from $A$.

..... [4]

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**15** Alisha has these 10 letter cards.

| R | E | G | R | E | S | S | I | O | N |
|---|---|---|---|---|---|---|---|---|---|

**(a)** Alisha selects 2 of these cards at random without replacement.

Find the probability that at least 1 card has an **S** on it.

..... [3]

**(b)** The 2 cards are replaced.
Alisha now selects 3 cards from the set of 10, at random without replacement.

Find the probability that the cards can be arranged to spell the word **SON**.

..... [3]

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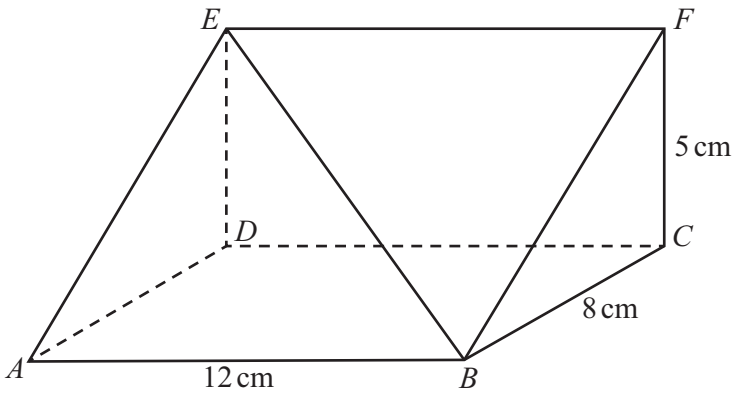
**16** The diagram shows a triangular prism.

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*ABCD* is a horizontal plane.
Angle *BCF* is a right angle.

**(a)** Calculate the length *BE*.

*BE* = ..... cm [3]

**(b)** Calculate the angle between *BE* and the horizontal plane.

..... [2]

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**17** Expand and simplify.

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

..... [3]

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