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Cambridge Assessment International Education

# Cambridge IGCSE™

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| CANDIDATE NAME | | | | | | | | | |
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*0499619041*

**CAMBRIDGE INTERNATIONAL MATHEMATICS** **0607/12**

Paper 1 (Core) **February/March 2024**

**45 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.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly and you will be given marks for correct methods even if your answer is incorrect.
- All answers should be given in their simplest form.

**INFORMATION**

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.

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**[Turn over**

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## Formula List

| | |
|---|---|
| Area, $A$, of triangle, base $b$, height $h$. | $A = \frac{1}{2}bh$ |
| Area, $A$, of circle, radius $r$. | $A = \pi r^2$ |
| Circumference, $C$, of circle, 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 $l$. | $A = \pi rl$ |
| Curved 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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Answer **all** the questions.

**1** Write 25% as a fraction.

..... [1]

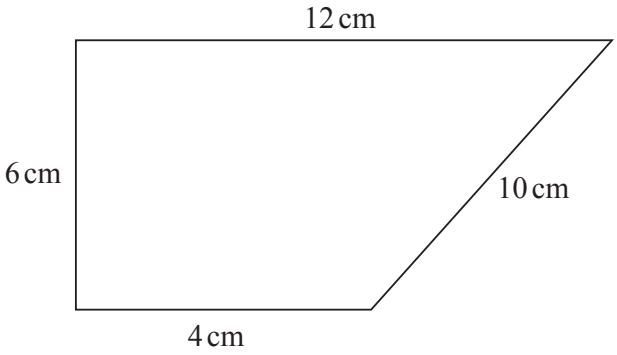
**2** Write down the value of $\sqrt{81}$.

..... [1]

**3** Change 305 centimetres into metres.

..... m [1]

**4**




NOT TO SCALE

Find the perimeter of this quadrilateral.

..... cm [1]

**5**




A card is chosen at random from these cards.

Which letter is least likely to be chosen?

..... [1]

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**6** Insert brackets to make this statement correct.

$$7 \times 4 - 2 = 14$$

[1]

**7** $x$, 9, 11, 13, $y$, 17, 19, …

This is a number sequence.

**(a)** Find the value of $x$ and the value of $y$ in this sequence.

$x =$ .....

$y =$ ..... [1]

**(b)** Explain why 58 is not in this sequence.

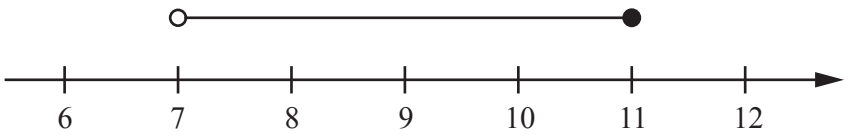
..... [1]

**8** Work out.

$$\frac{-5 \times 9}{-3}$$

..... [1]

**9**




Write down all the integers that satisfy the inequality shown on this number line.

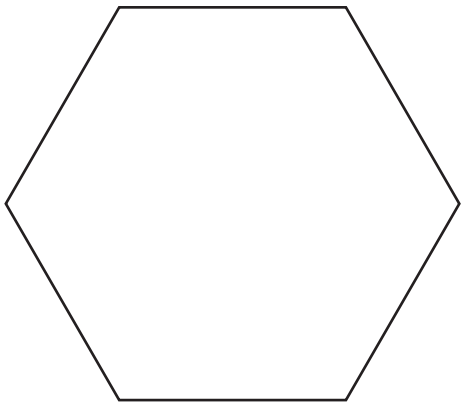
..... [1]

**10** The four sides of a quadrilateral are all the same length.
The quadrilateral has no right angles.

Write down the mathematical name of this shape.

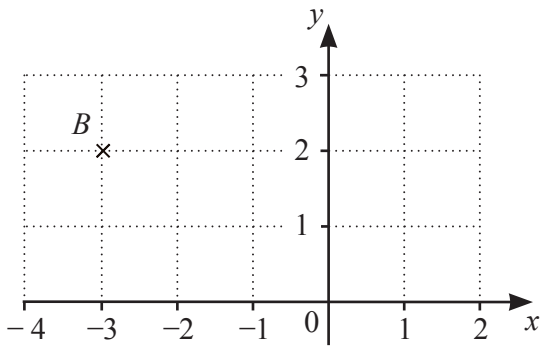
..... [1]

**11** Draw all the lines of symmetry on this regular hexagon.



[2]

**12**

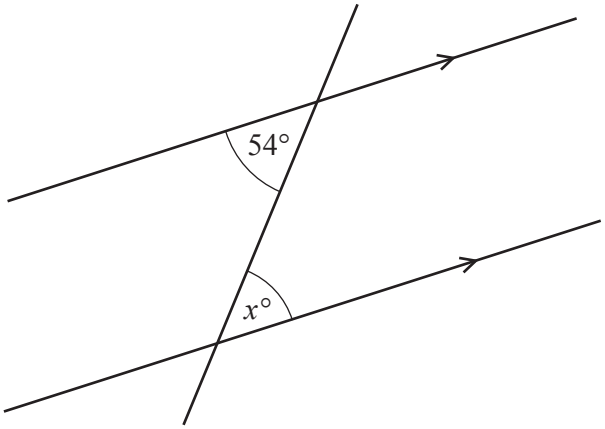



Write down the coordinates of point $B$. (..... , .....) [1]

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**13**




NOT TO SCALE

Complete the statement.

Angle $x$ = ..... because ..... [2]

**14** Ola asks 60 students what type of pet they have.
She wants to draw a pie chart to show this information.

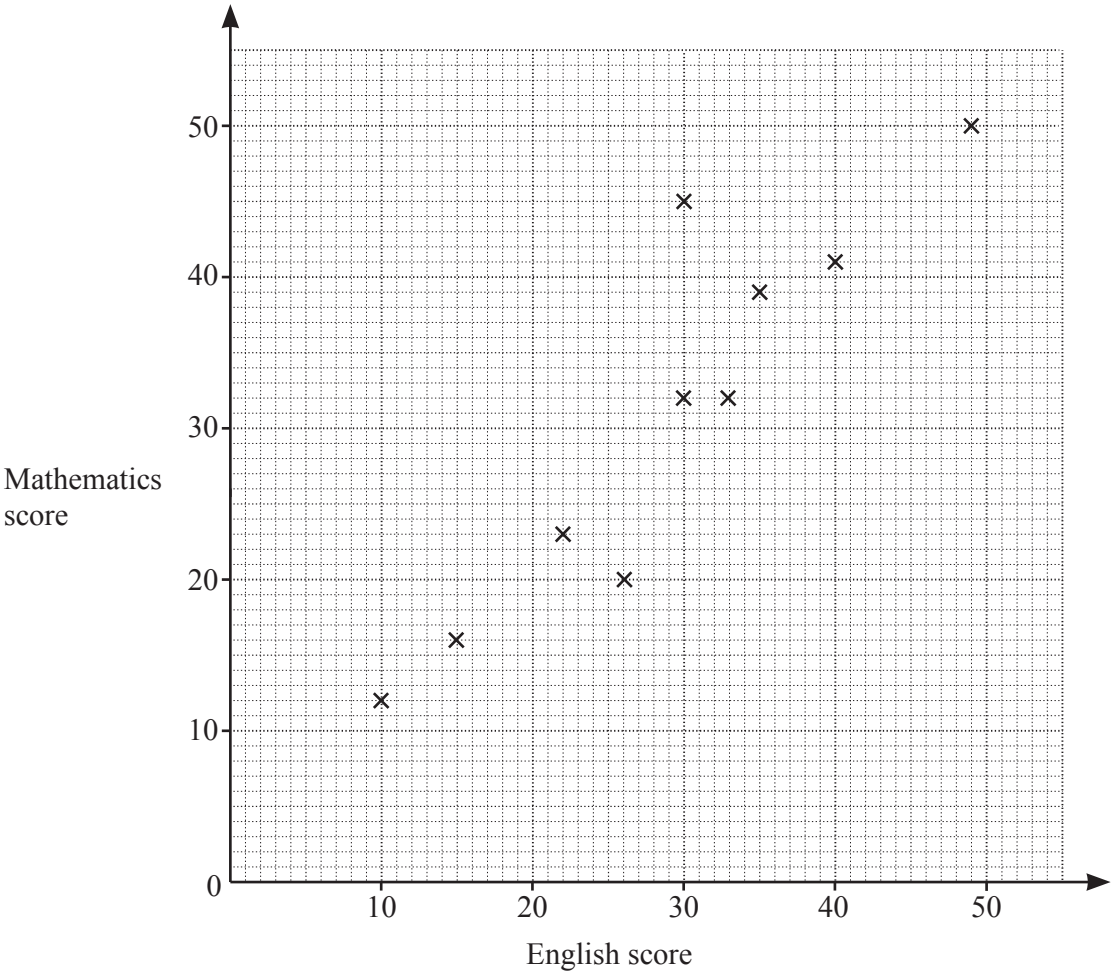
Complete the table.

| Type of pet | Number of students | Angle in the pie chart |
|---|---|---|
| Cat | 9 | 54° |
| Rabbit | | 180° |
| Others | 11 | |
| None | | 60° |

[3]

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**15** The scatter diagram shows the scores of each of 10 students in an English test and a mathematics test.




**(a)** The mean of the English test is 29 and the mean of the mathematics test is 31.
Draw a line of best fit on the scatter diagram. [2]

**(b)** Asrah scored 27 in the English test.
She did not take the mathematics test.

Use your line of best fit to estimate a score for her mathematics test.

..... [1]

**(c)** On the scatter diagram put a ring around the cross which shows the student who had a much higher mark in the mathematics test than in the English test. [1]

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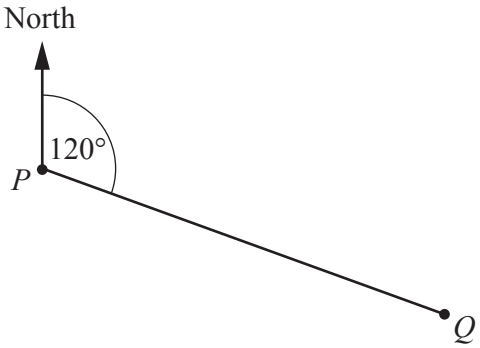
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**16** Find the equation of the line that is parallel to the line $2y = -4x + 5$ that passes through the point $(0, -3)$.

..... [2]

**17**

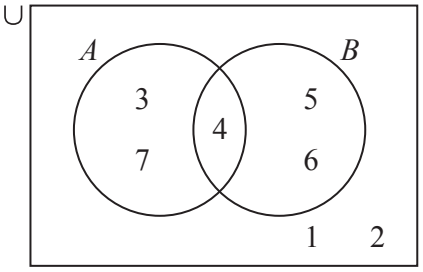



NOT TO SCALE

The bearing of $Q$ from $P$ is 120°.
Find the bearing of $P$ from $Q$.

..... [2]

**18**




**(a)** List the members of set $A$.

{ ..... } [1]

**(b)** List the members of set $B'$.

{ ..... } [1]

**(c)** Find n($B$).

..... [1]

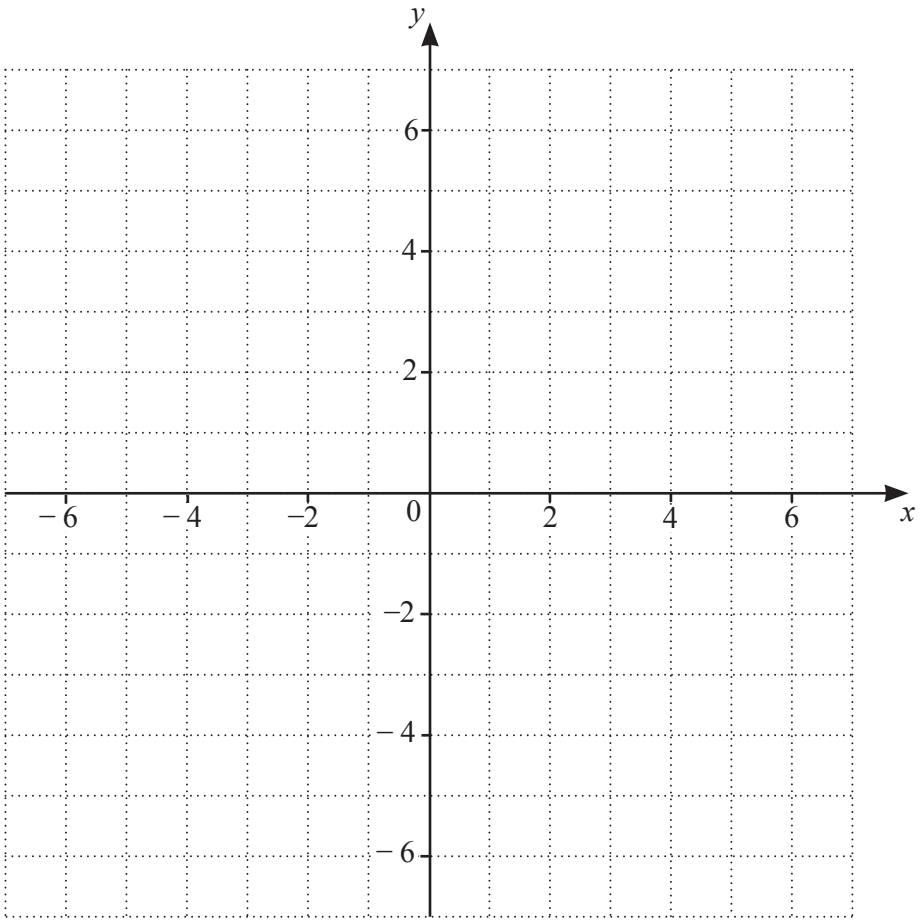
**(d)** List the members of $(A \cup B)'$.

{ ..... } [1]

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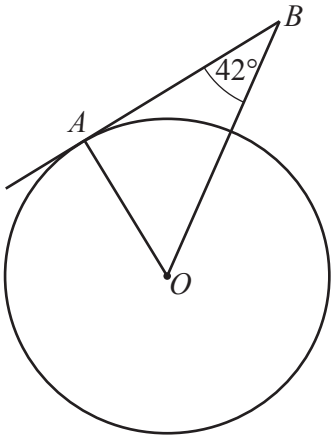
**19** The point $A$ (2, 4) is rotated through 180° about the origin.

Plot the image of point $A$.




[2]

**20**




NOT TO SCALE

$O$ is the centre of a circle.
$AB$ is a tangent to the circle at $A$ and angle $ABO = 42°$.

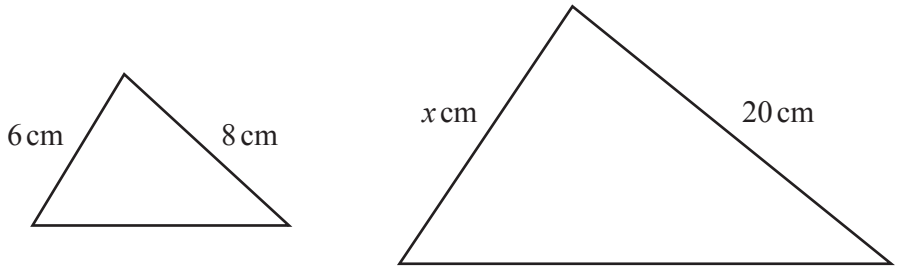
Find angle $AOB$.

Angle $AOB$ = ..... [2]

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**21**




NOT TO SCALE

These two triangles are similar.

Find the value of $x$.

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

**22** Solve the simultaneous equations.

$$3x + y = 7$$
$$x + 4y = 6$$

$x =$ .....

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

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