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**CAMBRIDGE INTERNATIONAL MATHEMATICS****0607/11**

Paper 1 Non-calculator (Core)

**May/June 2025****1 hour 15 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. You will be given marks for correct methods even if your answer is incorrect.

**INFORMATION**

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages.

## 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  $r$ .

$$V = \frac{4}{3}\pi r^3$$



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

- 1 (a) Write 54 736 correct to the nearest thousand. .... [1]
- (b) Write down a prime number between 10 and 20. .... [1]
- (c) Write down all the factors of 27. .... [2]
- (d) Circle the irrational number in this list.

$$\sqrt{64} \quad 3 \quad \frac{1}{3} \quad \sqrt{8} \quad \frac{1}{8} \quad 64$$

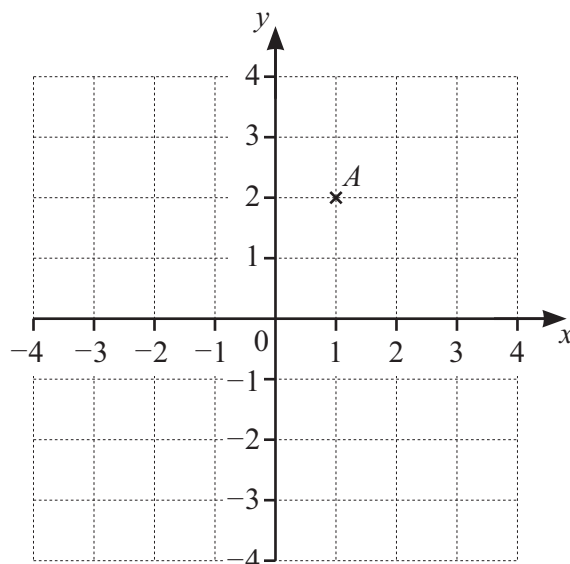
[1]

- 2 Insert one pair of brackets to make this calculation correct.

$$6 + 5 \times 4 - 2 = 16$$

[1]

3



- (a) Write down the coordinates of point A. ( ..... , ..... ) [1]
- (b) Plot the point (3, -2). [1]



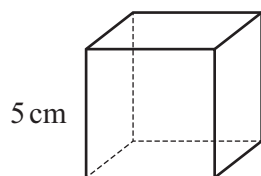
- 4 (a) Write  $\frac{47}{100}$  as a percentage.

..... % [1]

- (b) Write  $\frac{1}{5}$  as a decimal.

..... [1]

5



NOT TO  
SCALE

A cube has edges of length 5 cm.

Work out the total surface area of the cube.

..... cm<sup>2</sup> [2]

- 6 Draw all the lines of symmetry on this rectangle.

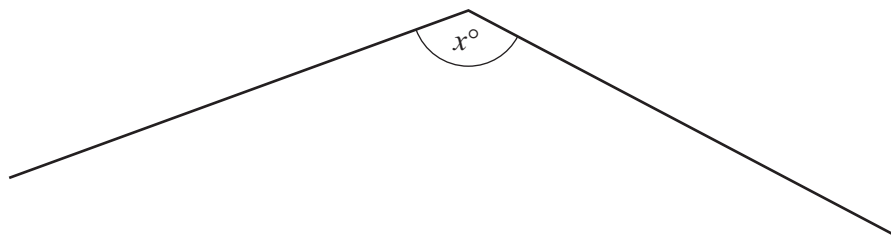


[2]

- 7 Convert 3 metres to centimetres.

..... cm [1]





(a) Measure angle  $x$ .

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

(b) What type of angle is angle  $x$ ?

..... [1]

- 9 Ridwan draws a regular shape with side length 4 cm.  
The perimeter of the shape is 12 cm.

Write down the mathematical name of this shape.

..... [2]

- 10 Write down all the integer values of  $x$  that satisfy this inequality.

$$-3 \leq x < 2$$

..... [2]



11 (a) Write down the value of  $\sqrt{144}$ .

..... [1]

(b) Write down the value of  $7^0$ .

..... [1]

(c) Write  $3 \times 3 \times 3 \times 3$  as a power of 3.

..... [1]

(d)  $(2^3)^4 = 2^x$ .

Find the value of  $x$ .

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

12 Write 125 000 in standard form.

..... [1]

13 Solve.

$$4x - 1 = 9$$

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



- 14** Bell A and Bell B ring together at 09 30.  
Bell A rings every 15 minutes.  
Bell B rings every 40 minutes.

**(a)** The next time Bell A rings is 09 45.

Complete the statement.

The next time Bell B rings is .....

[1]

**(b)** Work out the next time Bell A and Bell B ring together.

..... [3]

- 15** A box contains 40 balls.  
Each ball in the box is white, yellow or orange.

One ball is chosen at random from the box and replaced.

The probability that the ball is white is 0.6 .

The probability that the ball is yellow is 0.15 .

**(a)** Find the probability that the ball chosen is orange.

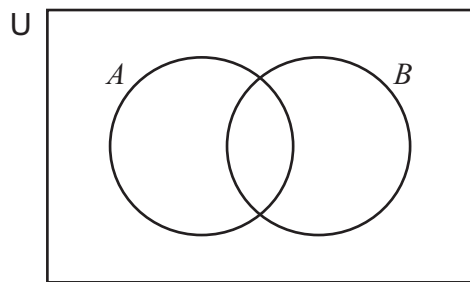
..... [2]

**(b)** Work out the number of white balls in the box.

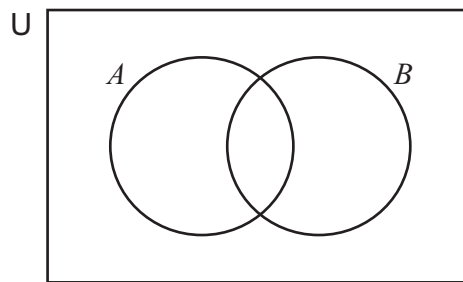
..... [1]



16 (a) For each Venn diagram, shade the given set.



Set  $B$



$A \cup B$

[2]

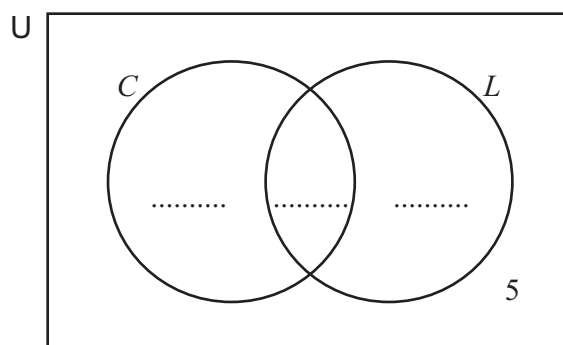
(b) 80 students are asked if they like chocolate ice cream ( $C$ ) or lemon ice cream ( $L$ ).

5 students do not like chocolate ice cream or lemon ice cream.

12 students like both chocolate ice cream and lemon ice cream.

43 students like chocolate ice cream only.

Complete the Venn diagram.



[2]



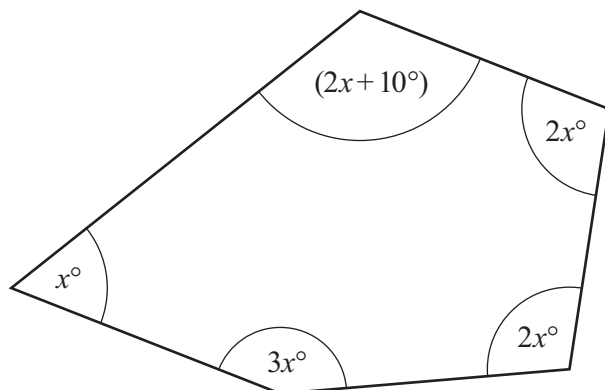


- 17 (a) The exterior angle of a polygon is  $60^\circ$ .

Work out the number of sides of this polygon.

..... [1]

- (b) The diagram shows a pentagon.



NOT TO  
SCALE

The sum of the interior angles of a pentagon is  $540^\circ$ .

Work out the value of  $x$ .

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

- 18 (a) Expand.

$$3m^2(m-4)$$

..... [2]

- (b) Expand and simplify.

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

..... [2]

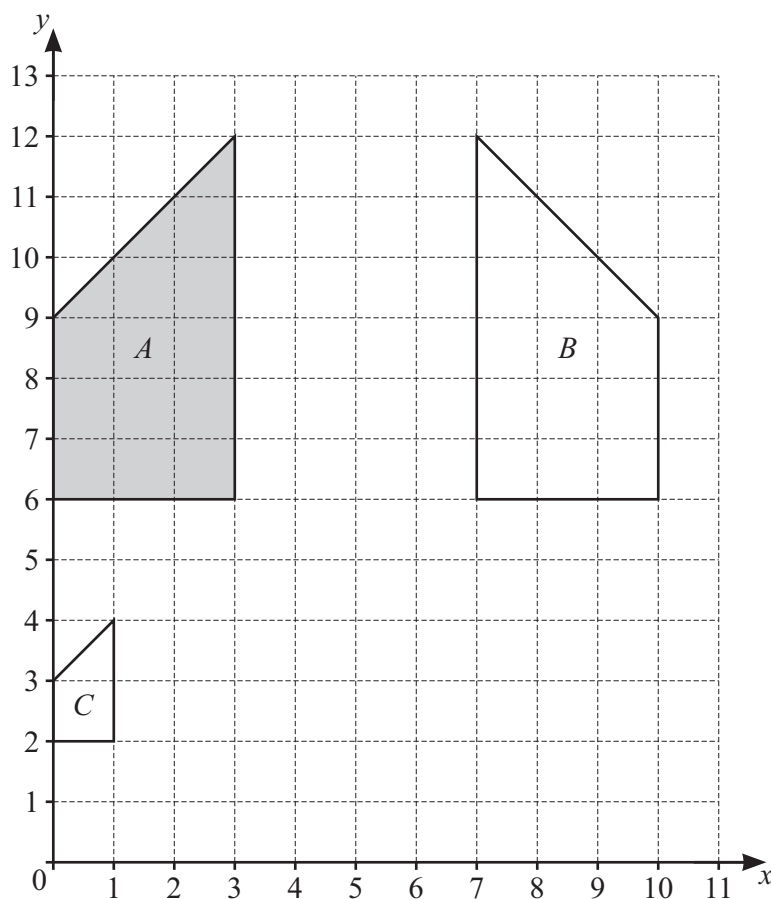


19 Simplify.

$$\frac{f^2}{2f}$$

..... [1]

20



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

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

(b) Describe fully the **single** transformation that maps shape *A* onto shape *C*.

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



21 120 students are each asked the time it takes them to complete an online game.

(a) Circle the word that describes the type of data collected.

continuous      discrete      random

[1]

(b) The table shows the sector angles for a pie chart using the times collected.

Time ( $t$ hours)	Frequency	Angle (degrees)
$0 < t \leq 1$	5	15
$1 < t \leq 2$		120
$2 < t \leq 3$		180
$3 < t \leq 4$		45
Total	120	360

Complete the frequency column.

[2]

**Question 22 is printed on the next page.**





22 Solve the simultaneous equations.

$$2x + 3y = 5$$

$$3x - 5y = 17$$

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

$$y = \dots\dots\dots$$

[4]

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