



# Cambridge IGCSE™

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/11**

Paper 1 (Core)

**October/November 2023**

**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 **8** pages.

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

Answer **all** the questions.

- 1 Work out how many days there are in 3 weeks.

..... [1]

- 2 Complete the statement.

For any circle the diameter is .....  $\times$  the radius. [1]

- 3 Write down the value of  $\sqrt{81}$ .

..... [1]

- 4 The table shows information about 230 goats.

	Adult goats	Kid goats
Male	27	96
Female	23	84

Work out the total number of kid goats.

..... [1]

- 5 A 5-litre container of orange juice is used to fill cups that each hold 200 millilitres.

Work out the maximum number of cups that can be filled.

..... [2]

- 6 Draw an angle of  $57^\circ$  at  $A$ .



[1]

7 Complete the sequence of the first six triangle numbers.

1, 3, ..... , 10, ..... , 21 [2]

8 Write these numbers in order of size, starting with the smallest.

$\frac{3}{4}$     83%    0.8    0.72

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

9  $E$  is the point (3, 7) and  $F$  is the point (3, 11).

Find the coordinates of the mid-point of  $EF$ .

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

10 Simplify.

$$-8k + 4d - 3d - 6k$$

..... [2]

11 Work out 3 hours as a percentage of 15 hours.

..... % [2]

12  $f(x) = x^2 - 2$

Work out  $f(6)$ .

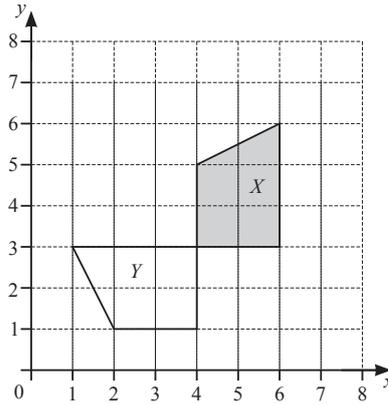
..... [1]

13 Simplify.

$$\frac{2m}{5} \times 3$$

..... [1]

14



Describe fully the **single** transformation that maps shape *X* onto shape *Y*.

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

15 Multiply out.

$$2(5 + 2y)$$

..... [1]

16 A semicircle has diameter 6 m.

Find the arc length of this semicircle.  
 Give your answer in terms of  $\pi$ .

..... m [2]

- 17 The angles in any triangle add up to  $180^\circ$ .  
The angles in triangle  $T$  are in the ratio 3 : 4 : 5.

Work out the size of each angle in triangle  $T$ .

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

- 18 Solve the simultaneous equations.

$$\begin{aligned}x &= -2y \\ 3x - 2y &= 16\end{aligned}$$

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

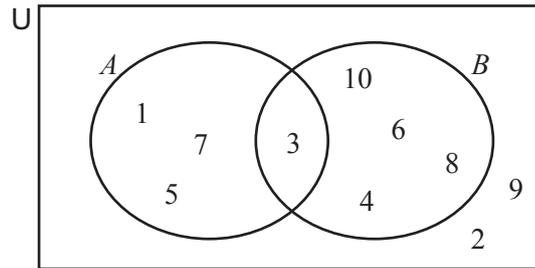
$$y = \dots\dots\dots [2]$$

- 19 Work out.

$$(3 \times 10^4) \times (4 \times 10^2)$$

Give your answer in standard form.

..... [2]



The Venn diagram shows two sets,  $A$  and  $B$ .

(a) Write down the elements of set  $A$ .

..... [1]

(b) One of the numbers is selected at random.

Find the probability that this number is in both set  $A$  and set  $B$ .

..... [1]

21 Write down the equation of the line with gradient 1 that passes through  $(0, 5)$ .

..... [2]

**Questions 22 and 23 are printed on the next page.**

- 22 The grouped frequency table shows information about the number of hours worked by each of 80 doctors.

Number of hours ( $t$ )	Frequency
$10 < t \leq 20$	8
$20 < t \leq 30$	16
$30 < t \leq 40$	21
$40 < t \leq 50$	35

- (a) Write down the class interval containing the median.

.....  $< t \leq$  ..... [1]

- (b) Complete the cumulative frequency table.

Number of hours ( $t$ )	Cumulative frequency
$t \leq 20$	8
$t \leq 30$	
$t \leq 40$	
$t \leq 50$	

[2]

- 23 These are the first five terms in a sequence.

225    223    221    219    217

Find the  $n$ th term.

..... [2]

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