Cambridge Assessment International Education

# Cambridge IGCSE™

CANDIDATE NAME

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

Paper 1 (Core) **October/November 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 **8** pages.

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

Answer **all** the questions.

**1** 4 10 15 40 60

From the list of numbers, write down all the factors of 20.

..... [1]

**2** Complete the statement with the correct mathematical name.

In a circle, ..... = 2 × radius. [1]

**3** Write the number eighty million in figures.

..... [1]

**4** This formula is used to find the cost to make a number of chairs.

| cost in dollars = 5 × number of chairs + 30 |
|---|

Work out the cost to make 10 chairs.

$ ..... [2]

**5** The cost of one ticket for a show is $7.50 .

Work out the cost of 50 tickets.

$ ..... [1]

**6** Faris is collecting data about cars.

Write down an example of continuous data that Faris could collect.

..... [1]

**7** A box contains 25 centilitres of juice.

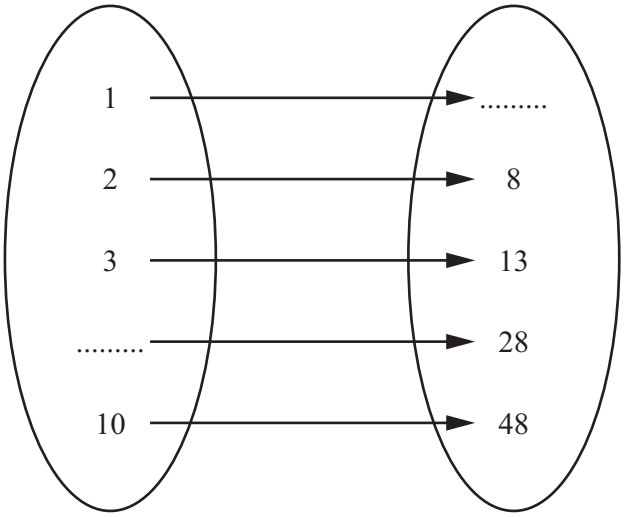
Work out the total amount of juice in 10 boxes.
Give your answer in litres.

..... litres [2]

**8** Write 85% as a fraction in its simplest form.

..... [2]

**9** Complete the mapping diagram.




[2]

**10** Sofia records the number of photos she takes each day during her two-week holiday.

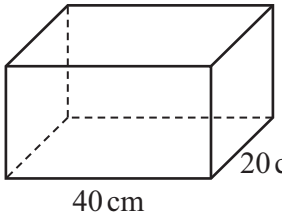
| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | 17 | 9 | 12 | 25 | 8 | 21 |
| 20 | 22 | 9 | 13 | 17 | 9 | 10 |

Complete the stem-and-leaf diagram to show this information.

| | |
|---|---|
| 0 | |
| 1 | |
| 2 | |

Key ..... | ..... represents ..... photos
[3]

**11**




NOT TO SCALE

Work out the total surface area of the cuboid.

..... $cm^2$ [3]

**12** Zara asks 20 people how many times they buy fuel for their car during a two-week period. The table shows this information.

| Number of times | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Frequency | 4 | 5 | 8 | 3 |

**(a)** Find the mode.

..... [1]

**(b)** Find the mean.

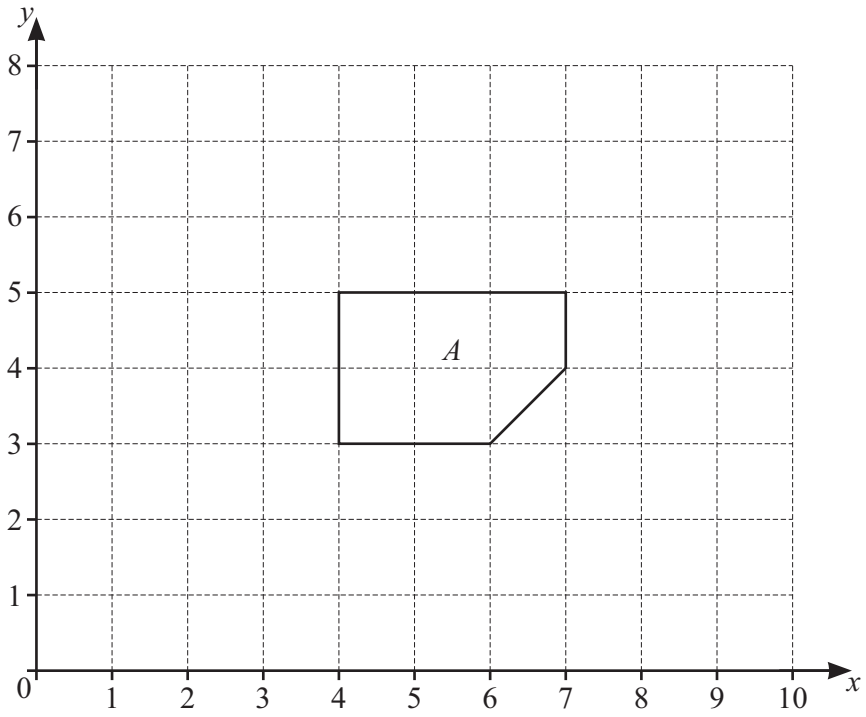
..... [2]

**13** Write down all the integer values of $x$ that satisfy this inequality.

$$-1 \leqslant x < 2$$

..... [2]

**14**




Translate shape $A$ by $\begin{pmatrix} -3 \\ -2 \end{pmatrix}$. [2]

**15** Pia cycles from $Q$ on a bearing of 260°.

Draw a line to show the direction of Pia's route.


[1]

**16** $\mathsf{U} = \{\text{numbers from 0 to 22}\}$
$A = \{\text{multiples of 4}\}$
$B = \{\text{square numbers}\}$

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

..... [1]

**(b)** Write down the elements of $A \cap B$.

..... [1]

**17** Simplify.

$$t^6 \div t^3$$

..... [1]

**18** The $n$th term of a sequence is $3n + k$, where $k$ is a positive integer.
The 10th term is 38.

**(a)** Find the value of $k$.

$k =$ ..... [2]

**(b)** Find the 5th term of the sequence.

..... [1]

**19** Work out.

$$2\frac{2}{11} - 1\frac{3}{5}$$

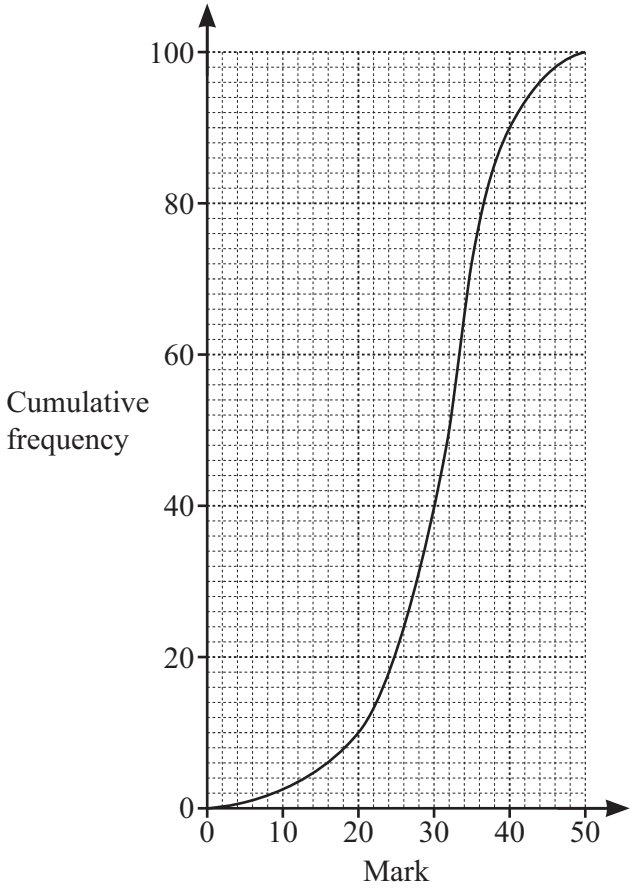
..... [3]

**Questions 20 and 21 are printed on the next page.**

**20** Find the gradient of the line $5y = 3x + 20$ .

..... [1]

**21** 100 students take a biology test.
The cumulative frequency curve shows the results.




**(a)** Use the curve to estimate the median mark.

..... [1]

**(b)** Find how many students gained more than 35 marks.

..... [2]