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CAMBRIDGE INTERNATIONAL MATHEMATICS0607/13

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 [].

**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 .

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





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, = $2 \times$ 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.

$$\text{cost in dollars} = 5 \times \text{number of chairs} + 30$$

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.

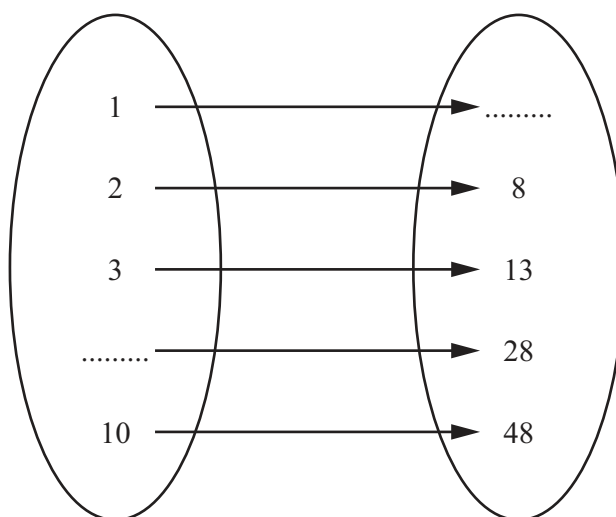
Work out the total amount of juice in 10 boxes.
Give your answer in litres.

..... 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	

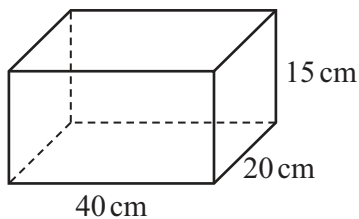
Key | represents photos
[3]





5

11

NOT TO
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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.

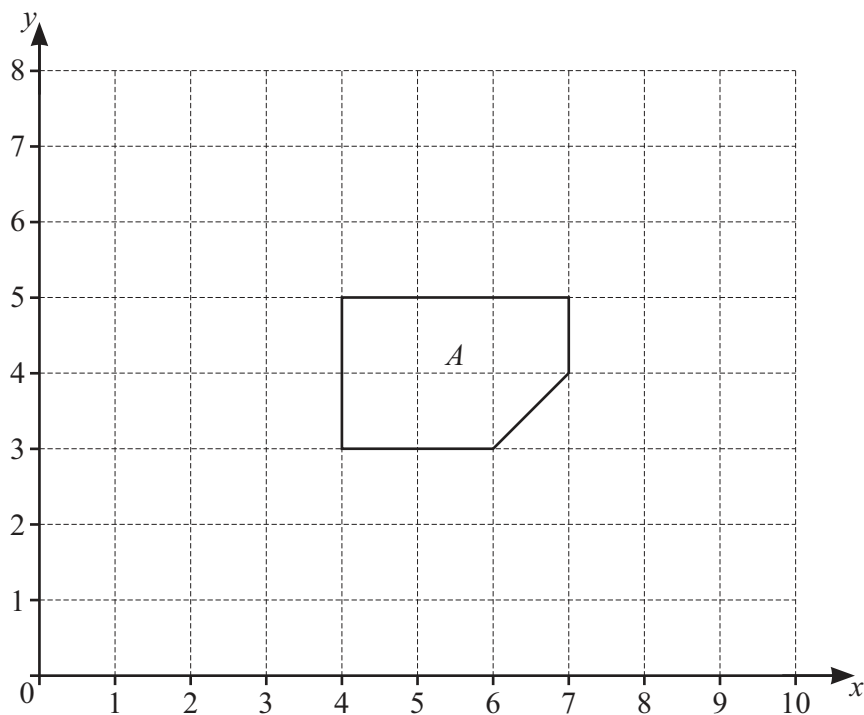
$$-1 \leq x < 2$$

..... [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 $U = \{\text{numbers from 0 to 22}\}$
 $A = \{\text{multiples of 4}\}$
 $B = \{\text{square numbers}\}$

(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.





..... [1]

The graph shows a cumulative frequency curve. The x-axis, labeled 'Mark', has major grid lines every 10 units from 0 to 50. The y-axis, labeled 'Cumulative frequency', has major grid lines every 20 units from 0 to 100. The curve starts at the origin (0,0) and follows an S-shape, passing through approximately (20, 10), (30, 40), (40, 90), and ending at (50, 100).

..... [1]

..... [2]

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