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CANDIDATE NAME



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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/13

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 [].

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 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.

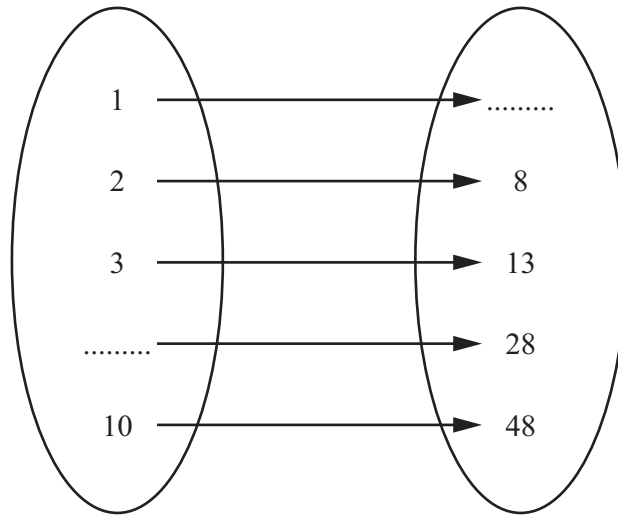
Work out the total amount of juice in 10 boxes.
Give your answer in litres.

..... 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.

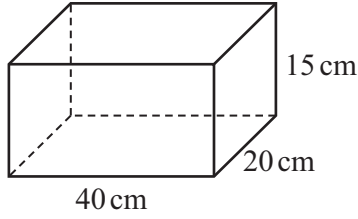
0	
1	
2	

Key | represents photos [3]





11



NOT TO SCALE

Work out the total surface area of the cuboid.

..... cm² [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.

$$-1 \leq x < 2$$

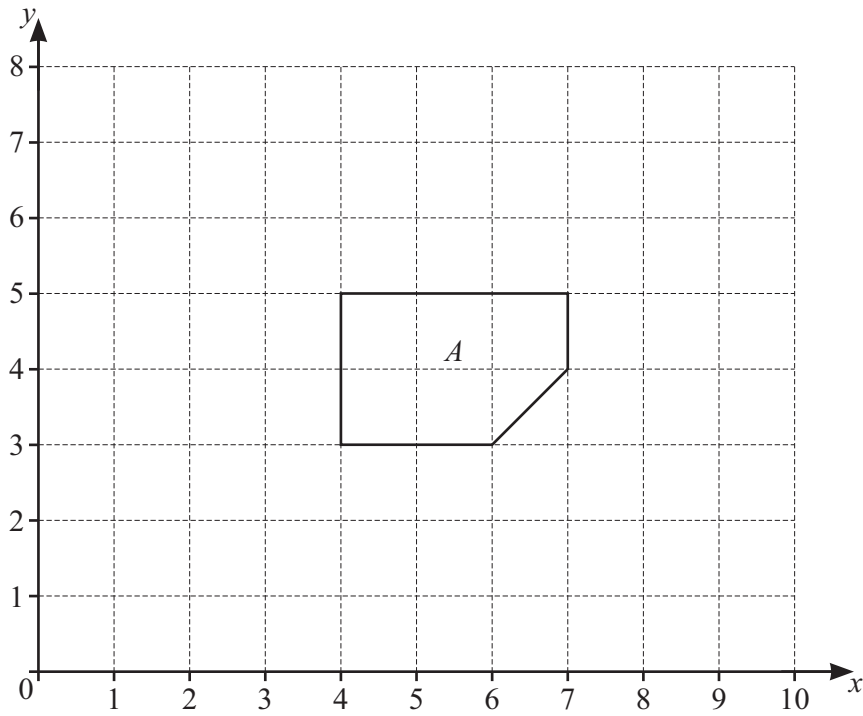
..... [2]



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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.



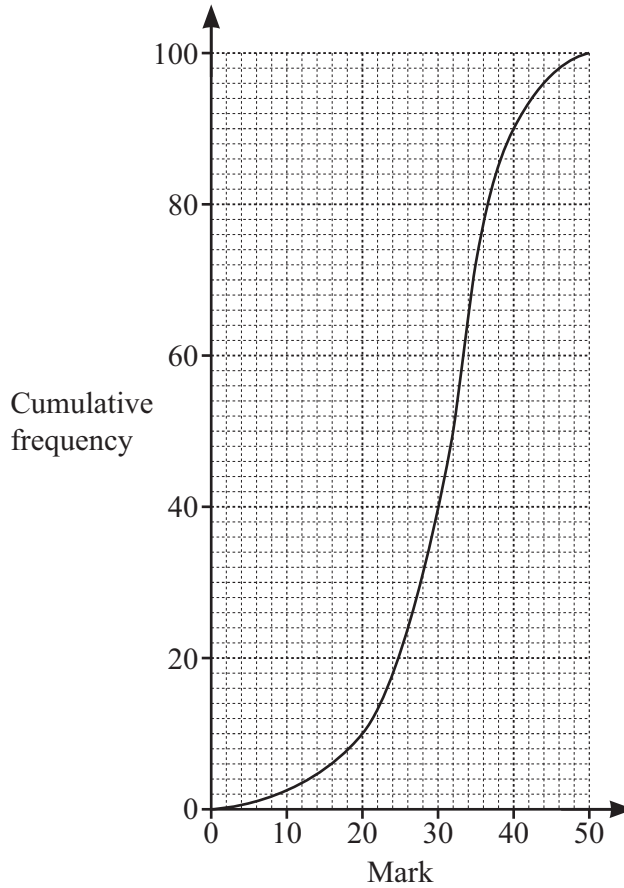
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20 Find the gradient of the line $5y = 3x + 20$.

..... [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]

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