



# Cambridge IGCSE™

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/13**

Paper 1 (Core)

**May/June 2022**

**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  $h$ .  $V = \frac{1}{3}\pi r^2 h$

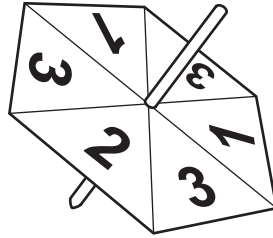
Volume,  $V$ , of sphere of radius  $r$ .  $V = \frac{4}{3}\pi r^3$

Answer **all** the questions.

- 1 Write  $\frac{1}{4}$  as a percentage.

.....% [1]

2



The diagram shows a fair 6-sided spinner which can land on the numbers 1, 2 or 3.

Write down the number on which the spinner is least likely to land.

..... [1]

- 3 Change 4 centilitres into millilitres.

..... ml [1]

- 4 Write 26 830 correct to the nearest hundred.

..... [1]

- 5 Canoe hire costs \$30 per day.  
A canoe is hired for 7 days.

Work out the total cost.

\$ ..... [1]

- 6 The table shows some data collected in a probability experiment.

Put a tick (✓) in each row to show whether the data is discrete or continuous.

Data	Discrete	Continuous
Score on die		
Number of rolls of die		
Time taken to roll die		

[1]

- 7  $A$  is the point  $(3, 2)$  and  $B$  is the point  $(3, 8)$ .

Work out the length of  $AB$ .

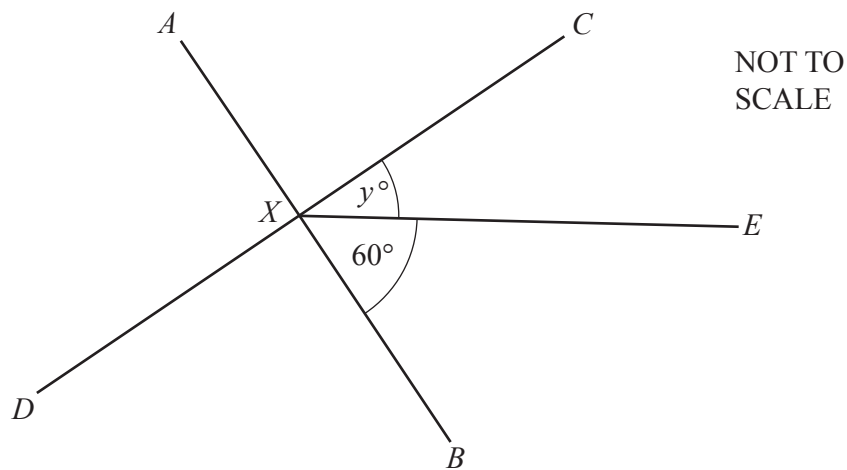
..... units [1]

- 8 Fill in the two missing terms of the sequence.

$-4, \square, 2, 5, 8, \square, \dots$

[2]

9



Lines  $AB$  and  $CD$  are straight lines that intersect at right angles at  $X$ .

Find the value of  $y$ .

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

- 10 Simplify.

$$3a + 4b + 2b - a$$

..... [2]

- 11 A cuboid has a volume of  $300 \text{ cm}^3$ .  
The length of the cuboid is 25 cm and the width is 4 cm.

Find its height.

..... cm [2]

- 12 Insert two pairs of brackets to make this statement correct.

$$3 + 2 \times 5 = 5 \times 4 + 6 \div 2 = 25$$

[2]

- 13 In a sale a shop reduces its prices by 10%.  
Paula buys a coat which had an original price of \$50.

Work out how much Paula pays for the coat.

\$ ..... [2]

- 14 Work out the size of one exterior angle of a 12-sided regular polygon.

..... [2]

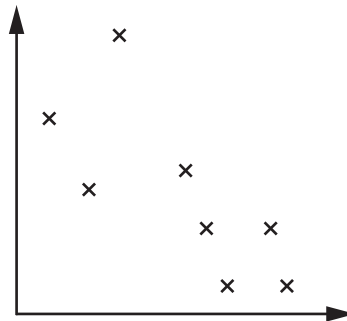
15 The table shows the number of spots on each of 30 ladybirds.

Number of spots	0	2	7	10	13
Frequency	5	2	11	9	3

Work out the mean number of spots.

..... [3]

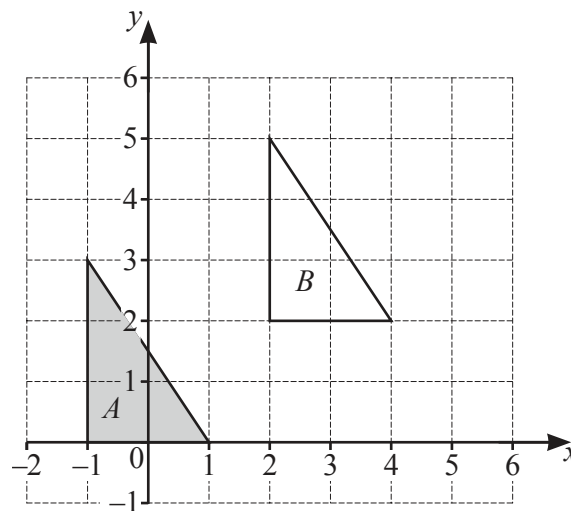
16



What type of correlation is shown on the scatter diagram?

..... [1]

17



Describe fully the **single** transformation that maps triangle *A* onto triangle *B*.

.....

..... [2]

18 Find the highest common factor (HCF) of 15 and 65.

..... [1]

19 A machine produces rivets.  
For every 50 rivets the machine produces, 1 rivet is defective.

(a) A rivet is chosen at random.

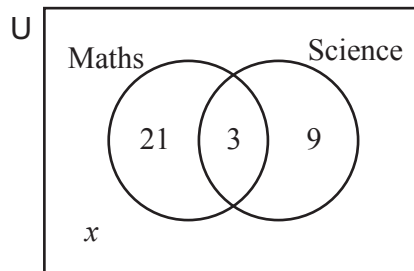
Find the probability that this rivet is defective.

..... [1]

(b) In a batch of 10 000 rivets, find the expected number of defective rivets.

..... [2]

20



The number of students in a class studying maths and science are shown in the Venn diagram.

(a) Write down how many students study both subjects.

..... [1]

(b) Find how many students study only one of these subjects.

..... [1]

(c) There are 50 students altogether.  
 $x$  students do not study either maths or science.

Find the value of  $x$ .

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

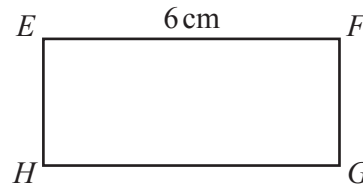
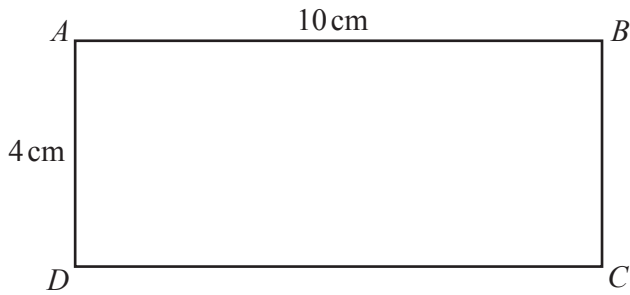
**Questions 21, 22 and 23 are printed on the next page.**

- 21 The width of a fibre is 0.000 019 m.

Write the width in standard form.

..... m [1]

22



NOT TO  
SCALE

Rectangles  $ABCD$  and  $EFGH$  are mathematically similar.

Work out  $EH$ .

$EH =$  ..... cm [2]

- 23 Solve.

$$10x + 7 < 5$$

..... [2]

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