



# Cambridge IGCSE™

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/12**

Paper 1 (Core)

**May/June 2021**

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

3

Answer **all** the questions.

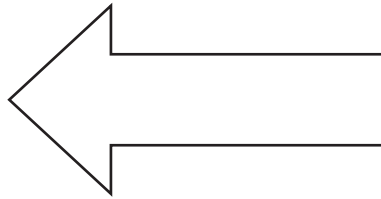
1 Write 3262.7 correct to the nearest 100.

..... [1]

2 Write down the value of  $6^2$ .

..... [1]

3



On the diagram, draw the line of symmetry.

[1]

4

-0.2       $\frac{2}{3}$       2       $\sqrt{2}$       2.1

From the list of numbers, write down the integer.

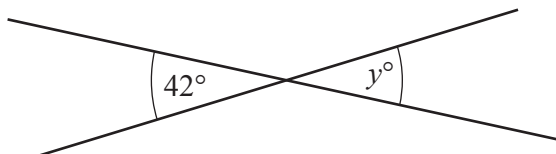
..... [1]

5 Write the missing number in the box.

$$\frac{16}{20} = \frac{\boxed{\phantom{000}}}{5}$$

[1]

6

NOT TO  
SCALE

The diagram shows two straight lines.

Write down the value of  $y$ . $y =$  ..... [1]

7 Work out.

$$17 - 3 \times 2$$

..... [1]

8 The list shows the ages of six people.

8      10      76      8      10      8

(a) Write down the mode.

..... [1]

(b) Find the range.

..... [1]

(c) Find the median.

..... [1]

(d) Find the mean.

..... [2]

9  $F = ma$

Find  $F$  when  $m = 25$  and  $a = 3$ .

$F =$  ..... [1]

10  $f(x) = (2x - 3)(x - 1)$

Work out  $f(7)$ .

..... [2]

11 Write the ratio 18 : 24 in its simplest form.

..... : ..... [1]

12  $A = \{1, 2, 3, 4, 5\}$

$$B = \{2, 3\}$$

Complete the following statements using set notation.

$$B \dots\dots\dots A$$

$$5 \dots\dots\dots A \quad [2]$$

13 A bus travels at an average speed of 70 km/h.

Find the distance it travels in 4 hours.

$$\dots\dots\dots \text{ km } [1]$$

14 Priya invests \$4500 for 3 years at a rate of 2% per year **simple** interest.

Work out the value of Priya's investment at the end of 3 years.

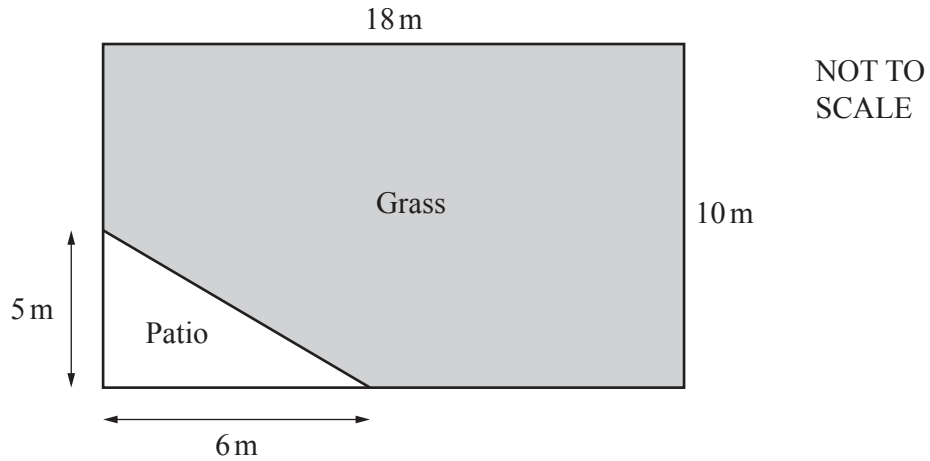
$$\text{\$ } \dots\dots\dots [3]$$

15 Solve the equation.

$$5(x + 3) = 30$$

$$x = \dots\dots\dots [2]$$

16



The diagram shows the rectangular garden of a house.

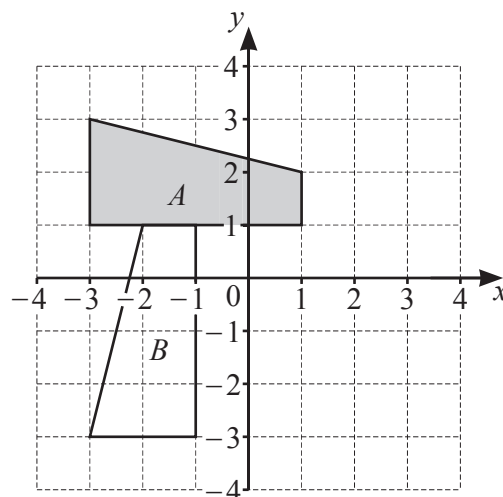
Work out the area of the grass.

..... m<sup>2</sup> [2]

17 Change 46 square centimetres into square millimetres.

..... mm<sup>2</sup> [1]

18



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

.....

..... [3]

19 These are the first five numbers in a sequence.

1      3      9      27      81

(a) Find the next number in this sequence.

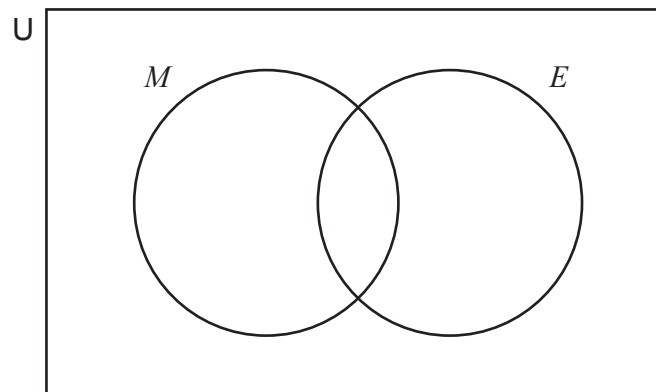
..... [1]

(b) Explain how you found your answer to **part (a)**.

..... [1]

20 150 students are asked whether they study mathematics ( $M$ ) or English ( $E$ ).  
10 study neither subject, 15 study both subjects and 50 study mathematics only.

(a) Complete the Venn diagram to show all 150 students.



[2]

(b) One of the 150 students is selected at random.

Find the probability that this student studies English.  
Give your answer as a fraction in its simplest form.

..... [2]

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

21 Work out.

$$\frac{8 \times 10^{17}}{4 \times 10^6}$$

Write your answer in standard form.

..... [2]

22 Solve the simultaneous equations.

$$x + y = 6$$

$$x - y = 16$$

$$x = .....$$

$$y = ..... [2]$$

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