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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.

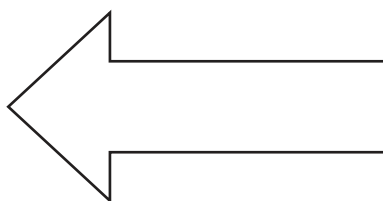
- 1 Write 3262.7 correct to the nearest 100.

..... [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]

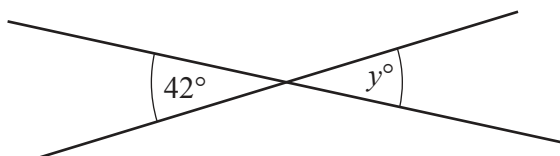
- 5 Write the missing number in the box.

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

[1]

6

NOT TO
SCALE



The diagram shows two straight lines.

Write down the value of y .

$y =$ [1]

4

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]

5

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

$B = \{2, 3\}$

Complete the following statements using set notation.

B A

5 A [2]

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

Find the distance it travels in 4 hours.

..... 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.

\$ [3]

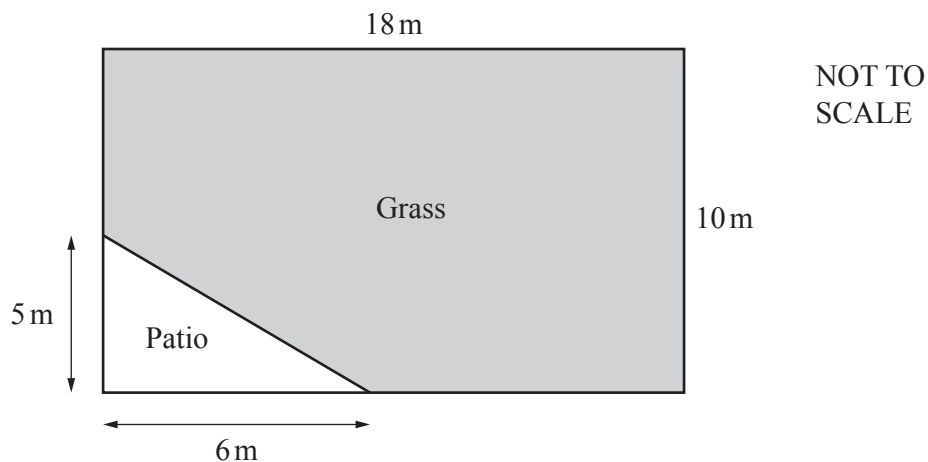
15 Solve the equation.

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

$x =$ [2]

6

16



The diagram shows the rectangular garden of a house.

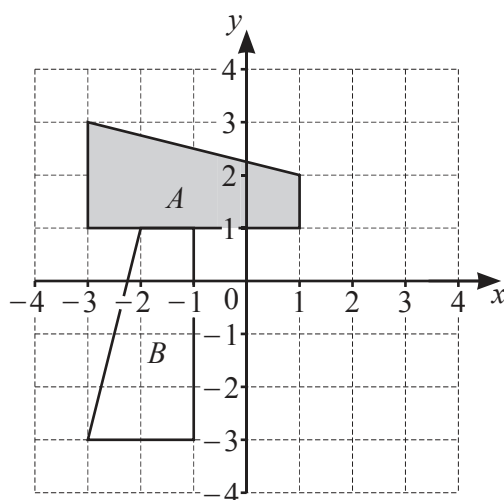
Work out the area of the grass.

..... m^2 [2]

17 Change 46 square centimetres into square millimetres.

..... mm^2 [1]

18



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

.....

..... [3]

7

- 19 These are the first five numbers in a sequence.

1 3 9 27 81

- (a) Find the next number in this sequence.

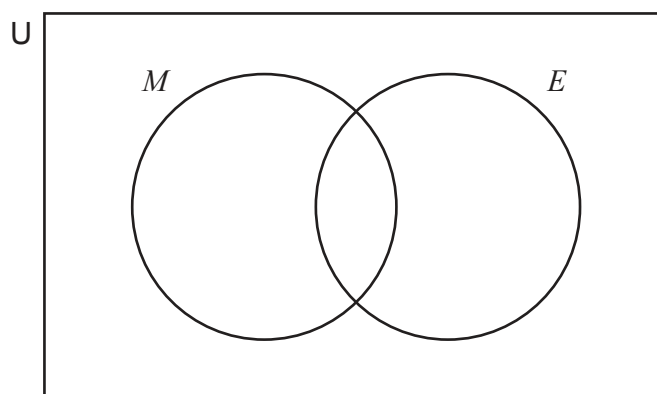
..... [1]

- (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.

8

21 Work out.

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

Write your answer in standard form.

..... [2]

22 Solve the simultaneous equations.

$$x + y = 6$$

$$x - y = 16$$

$$x = \dots\dots\dots$$

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

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