



# Cambridge IGCSE™

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/12**

Paper 1 (Core)

**October/November 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  $r$ .

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

Answer **all** the questions.

1 Write 3468 correct to the nearest ten.

..... [1]

2



Complete the statement.

Angle  $x$  is an ..... angle. [1]

3 Write  $\frac{59}{100}$  as a percentage.

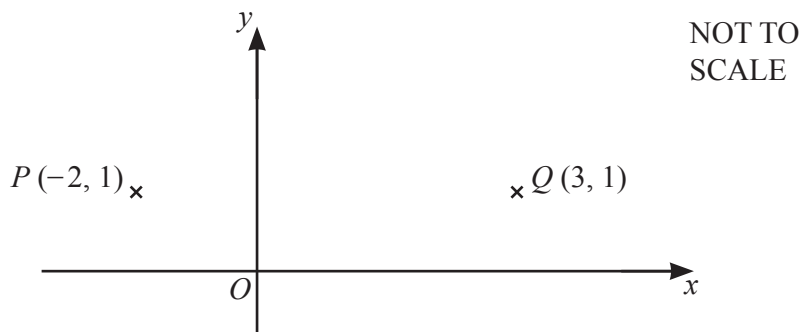
..... % [1]

4 Work out.

$$2 \times (9 - 2 \times 3) - 5$$

..... [2]

5



Work out the distance  $PQ$ .

..... [1]

6 Find the cube root of 64.

..... [1]

- 7 Mario invests \$400 for 2 years at a rate of 5% per year simple interest.

Work out the interest that Mario receives.

\$ ..... [2]

- 8 Find the total surface area of a cube of side 3 cm.

.....  $\text{cm}^2$  [2]

- 9 Find the distance a train travels in 2 hours when its average speed is 120 km/h.

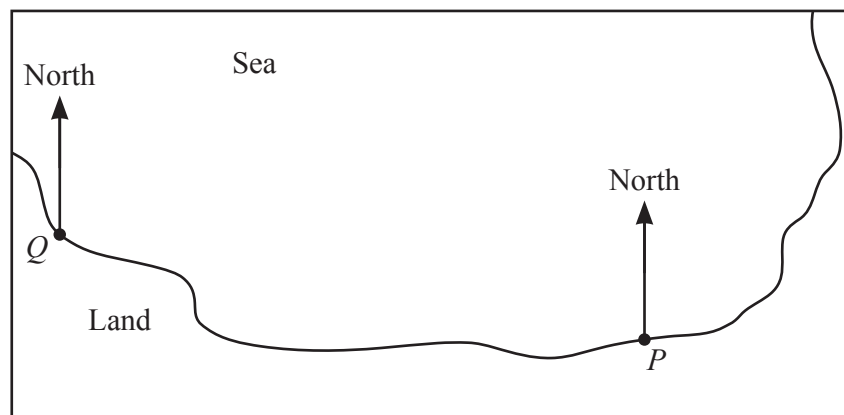
..... km [1]

- 10 An apartment costs \$500 per month to rent.

Calculate the cost to rent the apartment for 1 year 3 months.

\$ ..... [2]

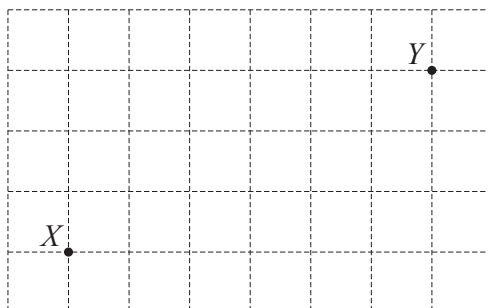
11



Measure the bearing of town  $Q$  from town  $P$ .

..... [1]

12



Point  $X$  is translated to point  $Y$ .

Write down the vector for this translation.

$$\left( \quad \quad \right) [1]$$

13 Simplify.

$$v^3 \div v$$

..... [1]

14 Write down a number, greater than 1, that is both a square number and a triangle number.

..... [1]

15 Microchips are checked for defects.

Out of 10000 microchips made on a particular machine, 500 were found to be defective.

Find the probability that a microchip from this machine is defective.

Give your answer as a decimal.

..... [2]

16 
$$f(x) = \frac{x}{5}$$

Work out the value of  $x$  when  $f(x) = 10$ .

$x =$  ..... [1]

17 Solve the equation.

$$2(x + 3) = 20$$

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

18

- $\frac{4}{5}$    0.9    $\frac{20}{7}$    3    $\pi$    5.7

From the list of numbers write down

(a) the integer,

..... [1]

(b) the irrational number.

..... [1]

19 The table shows the number of televisions in each of 20 homes.

Number of televisions	0	1	2	3	4
Frequency	2	8	7	2	1

(a) Write down the mode.

..... [1]

(b) Find the mean.

..... [3]

20 Find the lowest common multiple (LCM) of 24 and 60.

..... [2]

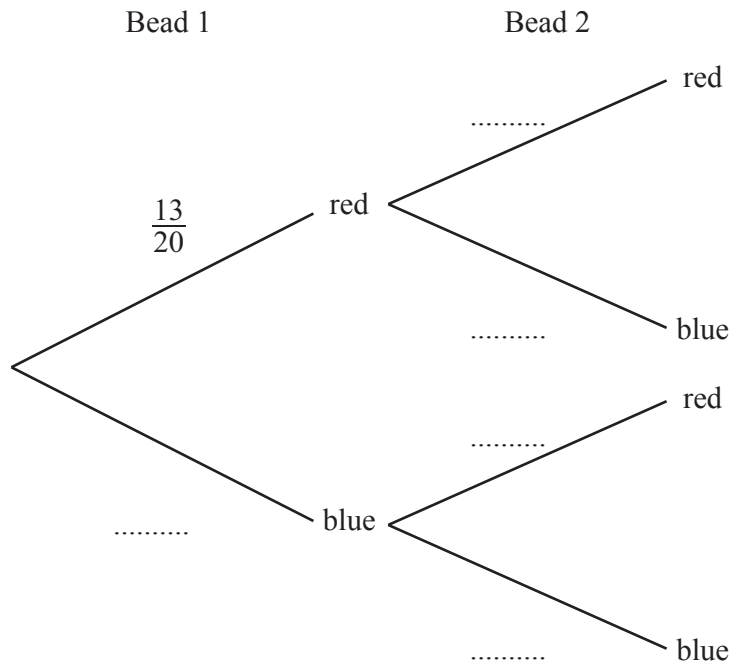
21 Simplify fully.

$$\frac{2}{y} \div \frac{6}{y^2}$$

..... [2]

22 A bag contains 13 red beads and 7 blue beads.  
Two beads are taken out of the bag at random.

Complete the tree diagram.

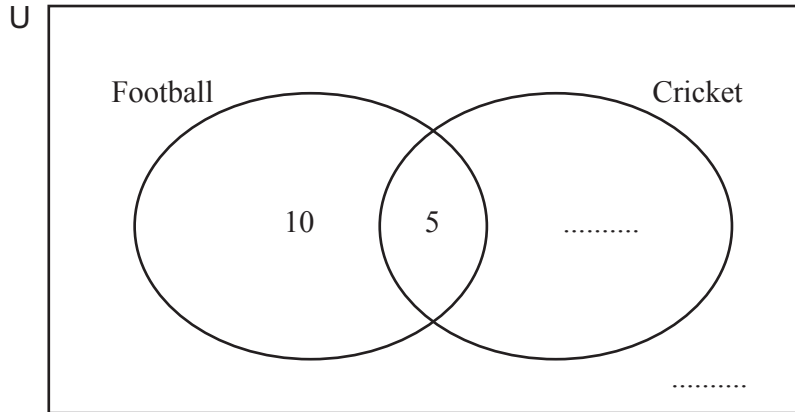


[2]

Questions 23 and 24 are printed on the next page.

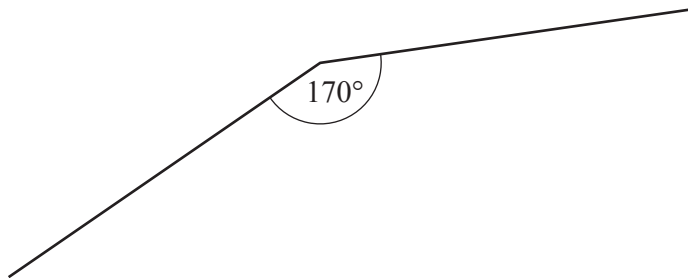
- 23 A class has 30 students.  
5 students play both football and cricket.  
15 students play football and 13 students play cricket.

Use this information to complete the Venn diagram.



[2]

- 24



NOT TO SCALE

The diagram shows one interior angle of a regular polygon.

Find the number of sides of the polygon.

..... [3]

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