Cambridge Assessment International Education

# Cambridge IGCSE™

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*4723519693*

**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.


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

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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.

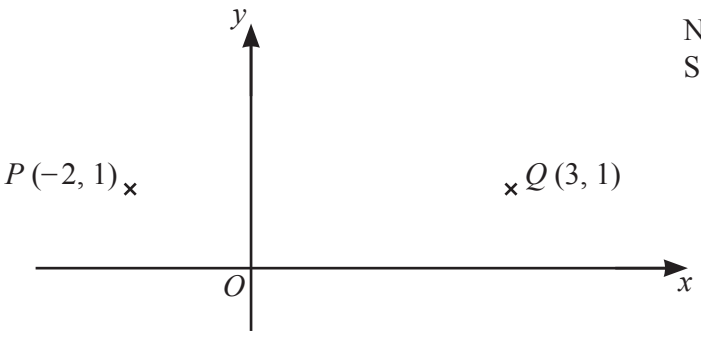
..... % [1]

**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.

..... $cm^2$ [2]

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

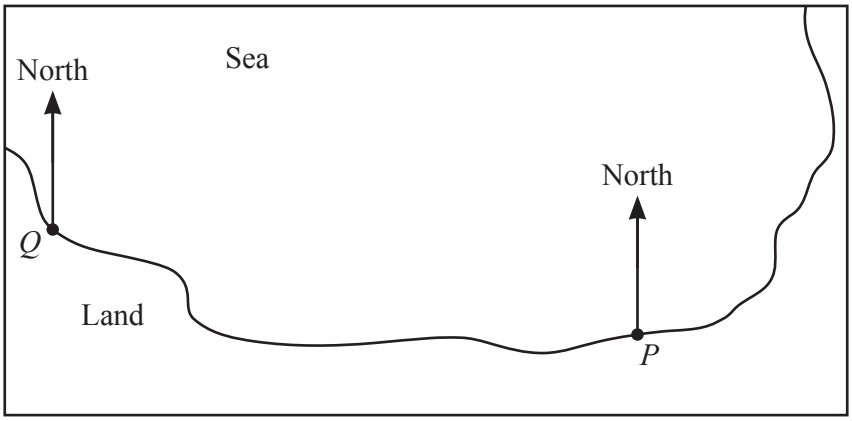
..... km [1]

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

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

\$ ..... [2]

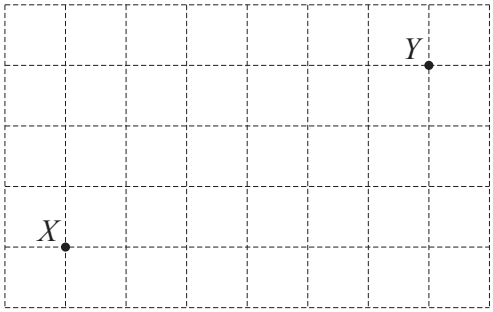
**11**




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.

$\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [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 10 000 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]

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**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]

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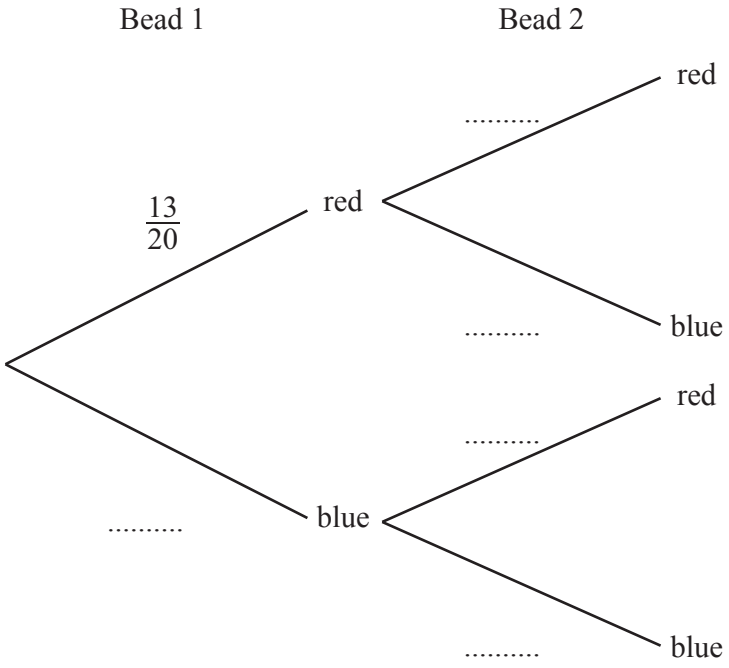
**21** Simplify fully.

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

..... [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.

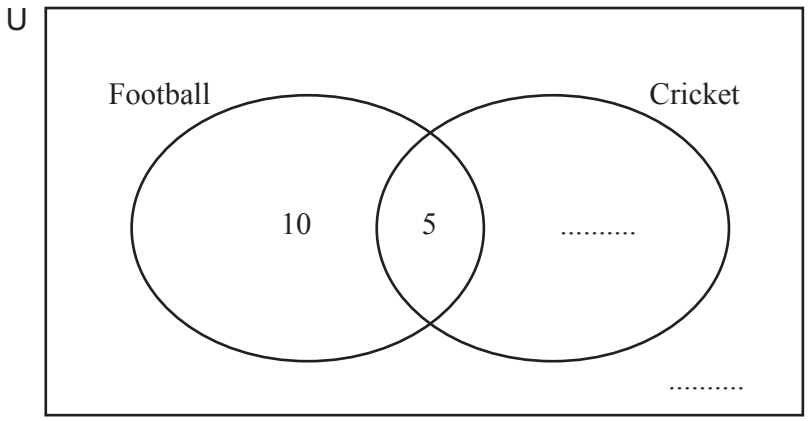



[2]

**Questions 23 and 24 are printed on the next page.**

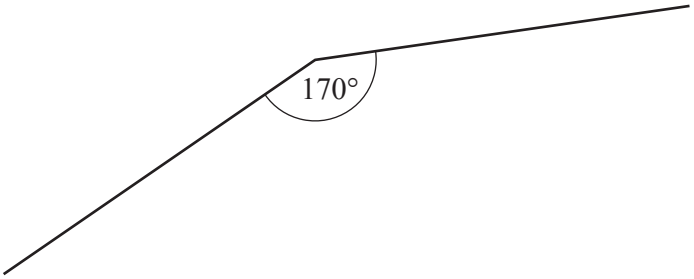
**23** A class has 30 students.
5 students play both football and cricket.
15 students play football and 13 students play cricket.

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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