Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

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.

[Turn over

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.

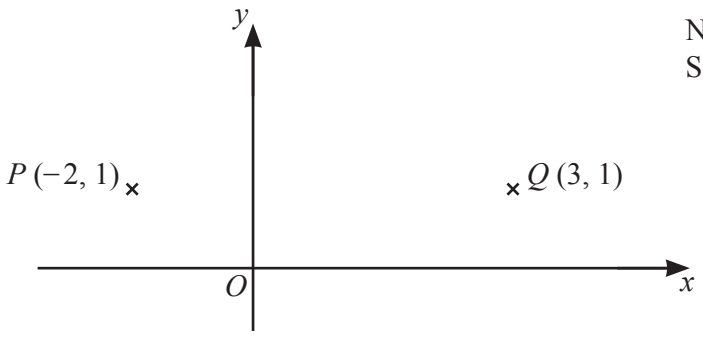
..... % [1]

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]

[Turn over

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.

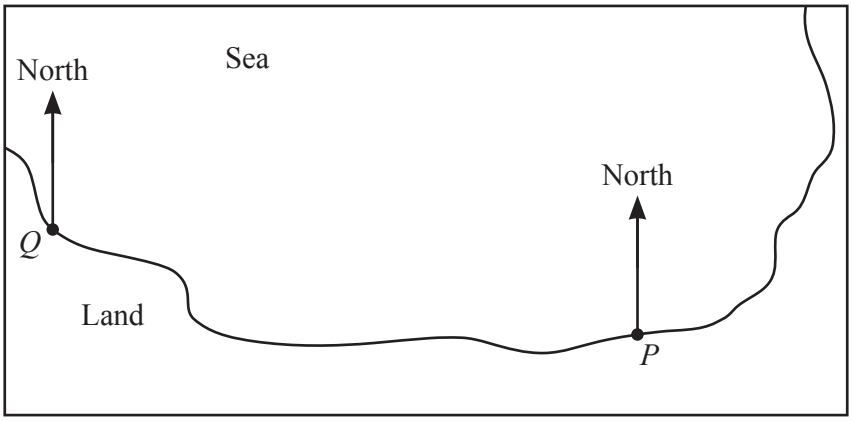
..... km [1]

10 An apartment costs $500 per month to rent.

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

$ ..... [2]

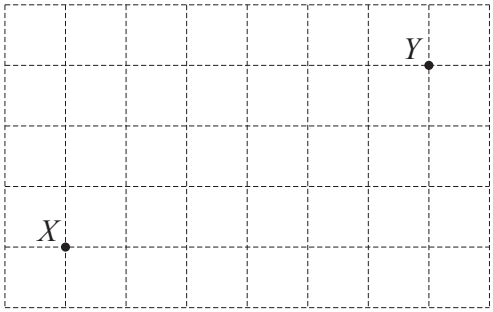
11



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]

[Turn over

17 Solve the equation.

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

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

18 $\frac{4}{5}$ 0.9 $\frac{20}{7}$ 3 π 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]

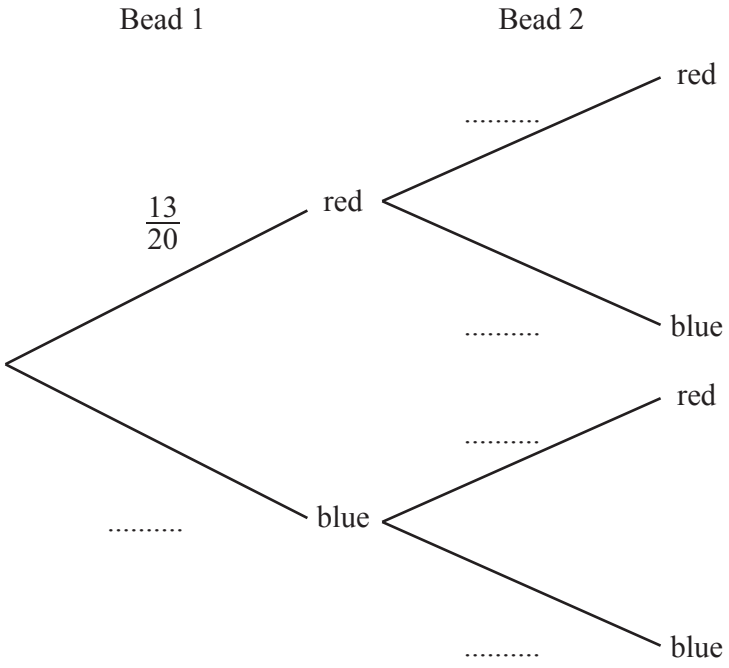
21 Simplify fully.

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

..... [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.

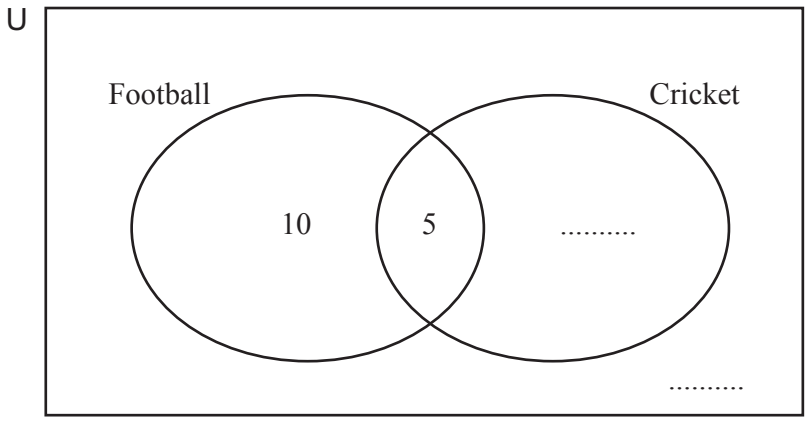


[2]

Questions 23 and 24 are printed on the next page.

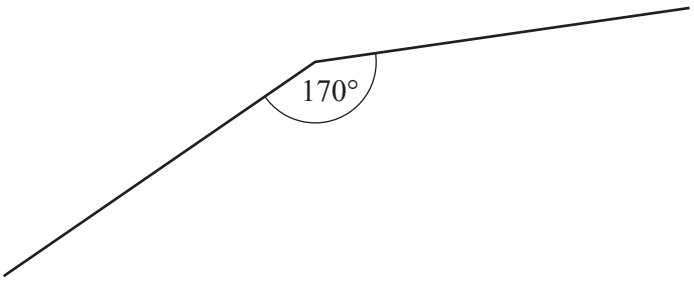
23 A class has 30 students.
5 students play both football and cricket.
15 students play football and 13 students play cricket.

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]