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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/12

Paper 1 (Core)

May/June 2023

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 down **two** multiples of 15.

....., [1]

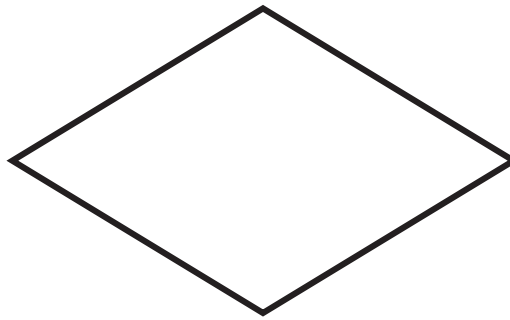
2 These are the temperatures of four cities.

-4°C -8°C -2°C -6°C

Complete this statement.

The coldest city has a temperature of $^{\circ}\text{C}$. [1]

3 Draw all the lines of symmetry on the rhombus.



[2]

4 8 customers review a restaurant and give it a mark out of ten.

These are the marks.

1 6 5 9 5 7 4 3

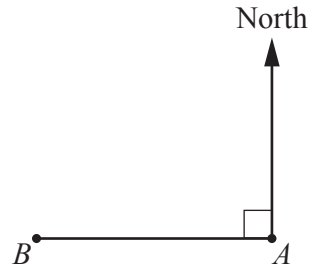
(a) Find the mean.

..... [2]

(b) Find the range.

..... [1]

5



(a)

north-east	east	south-east	south	south-west	west	north-west
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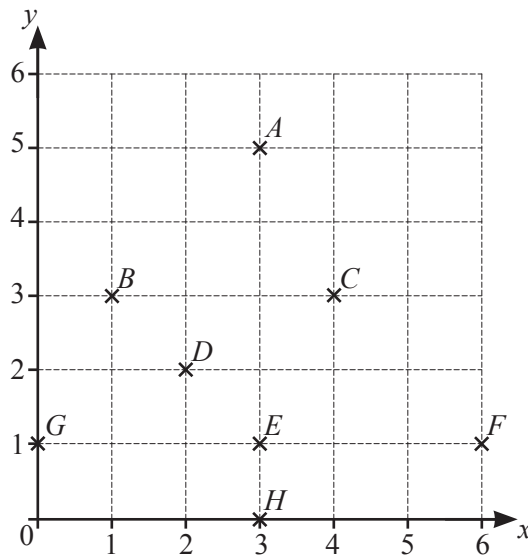
From the list above complete the following statement.

B is of *A*. [1]

(b) Write down the three-figure bearing of *B* from *A*.

..... [1]

6



Complete each statement using a letter from *A* to *H*.

(a) The *x*-coordinate and *y*-coordinate of point are the same. [1]

(b) The *y*-coordinate of point is 0. [1]

(c) Point is the mid-point of *FG*. [1]

7 The table shows examples of data collected.

Data Collected	Type of Data
Mass of honey collected from a beehive.	
Number of tomatoes collected from a tomato plant.	
Time taken for chicken eggs to hatch.	

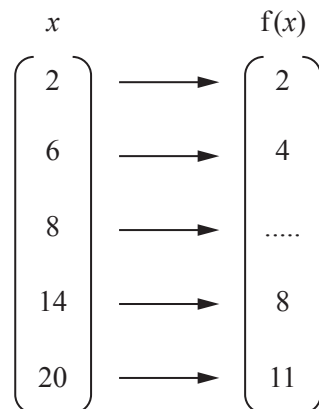
Complete the table using the words Continuous or Discrete. [2]

8 Circle P has a diameter of 5 cm.
Circle Q has a diameter of 20 cm.

Find the scale factor of the enlargement from circle P to circle Q .

..... [1]

9 Complete the mapping diagram.



[1]

10 Simplify.

$$h - 4h$$

..... [1]

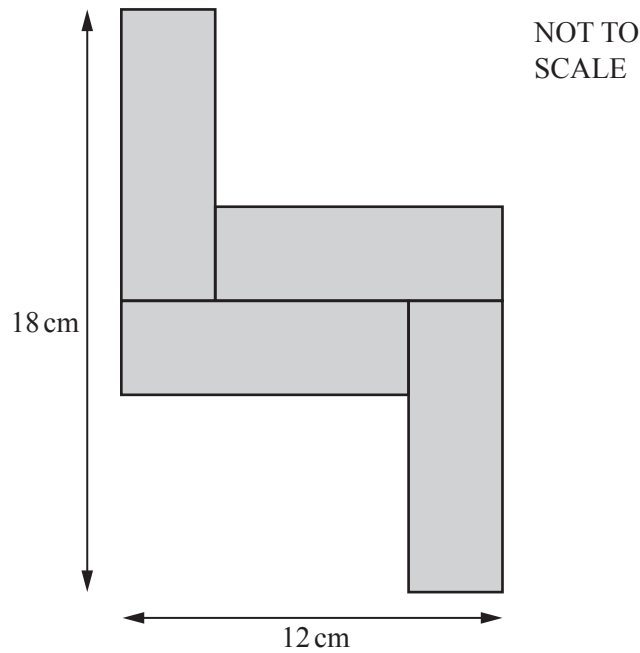
11 Write down a prime number between 50 and 60.

..... [1]

12 Work out 5% of \$4500.

\$..... [2]

13



The diagram shows a shape made from four identical rectangles.

Work out the shaded area.

..... cm² [3]

14 $U = \{x \mid x \text{ is an integer where } 0 < x < 9\}$
 $A = \{x \mid x \text{ is a factor of } 8\}$

List the elements of set A' .

..... [2]

- 15 The circumference of a circle is 10π cm.

Work out the radius of the circle.

..... cm [2]

- 16 Change 780 square millimetres into square centimetres.

..... cm^2 [1]

- 17 Axel has a mass of 60 kg and Bruno has a mass of x kg.
The ratio mass of Axel : mass of Bruno = 2 : 3.

Work out the value of x .

$x =$ [2]

- 18 These are the first five terms in a sequence.

6 11 16 21 26

Find the n th term.

..... [2]

- 19 Simplify.

$$r \times r^2$$

..... [1]

Questions 20, 21, 22 and 23 are printed on the next page.

20 $y = x$ and $y - x = 3$ are the equations of two parallel lines.

Write down the gradient of these lines.

..... [1]

21 The probability of rolling a six on a biased die is $\frac{4}{25}$.
The die is rolled 300 times.

Find an estimate for the number of sixes rolled.

..... [2]

22 Solve $3x - 1 < 2x + 8$.

..... [2]

23 Work out $3\frac{1}{7} \times \frac{2}{9}$.

..... [2]

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