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Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME

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2508162837

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 (Core) **May/June 2024**

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.

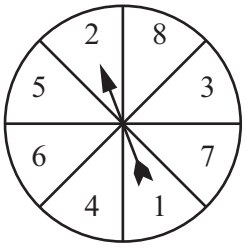
1 Write down the value of $\sqrt{49}$.

..... [1]

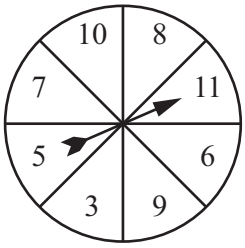
2 Write down all the factors of 93.

..... [2]

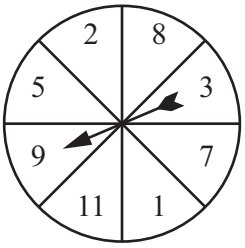
3 The diagram shows three fair spinners.



Spinner A



Spinner B



Spinner C

Each spinner is spun once.

Complete the statement.

Spinner ..... is least likely to land on an even number. [1]

4 The table shows information about the colours of fruit and vegetables in a basket.

	Fruits	Vegetables	Total
Orange	12	5	17
Red	8	4	12
Green	5	11	16
Total	25	20	45

(a) Write down the total number of fruits.

..... [1]

(b) Write down the number of green vegetables.

..... [1]

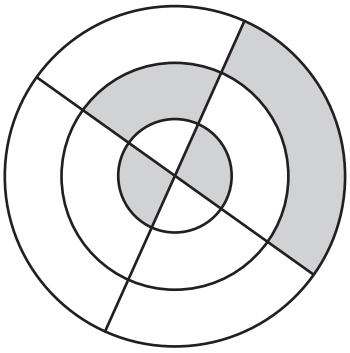
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5 Work out.

0.5×0.1

..... [1]

6 On the diagram, shade **one** more section to give a pattern with one line of symmetry.



[1]

7 Insert one pair of brackets to make this statement correct.

$$4 + 16 \times 2 - 12 = 28$$

[1]

8 $y = 5(m + 3)$

Find y when $m = 9$.

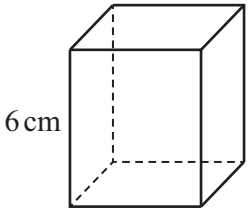
$y =$ ..... [2]

9 Write $8 \times 8 \times 8 \times 8 \times 8$ as a power of 8.

..... [1]

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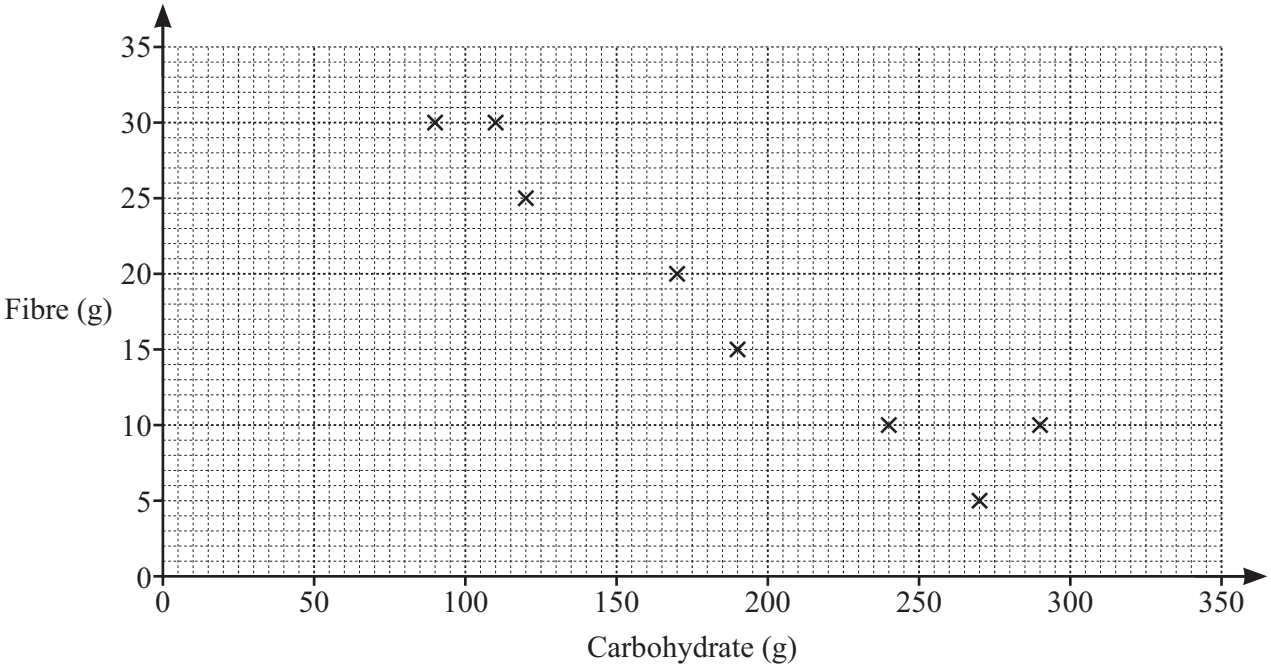
NOT TO SCALE

The diagram shows a cuboid with height 6 cm.
The base of the cuboid is a square with area 25 cm^2.

Work out the total surface area of the cuboid.

..... cm^2 [3]

11 The scatter diagram shows the mass of carbohydrate and the mass of fibre eaten by each of 8 people one day.



(a) The table shows information for 4 more people.

Carbohydrate (g)	150	170	230	300
Fibre (g)	25	10	15	5

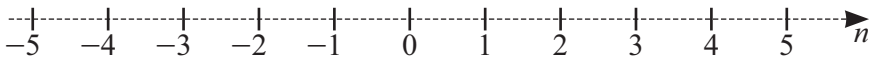
Plot these points on the scatter diagram. [2]

(b) Write down the type of correlation shown in the scatter diagram.

..... [1]

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12 **(a)** On the number line, show the inequality $n > -1$.



[1]

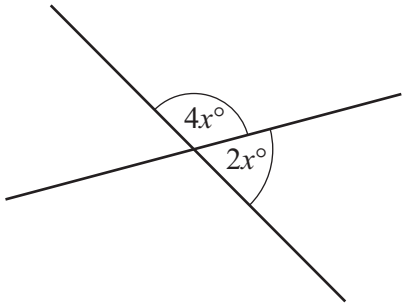
(b) Write down the smallest integer that satisfies the inequality $n > -1$.

..... [1]

13 Increase 120 by 15%.

..... [2]

14 The diagram shows two straight lines crossing.



NOT TO SCALE

Find the value of x.

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

15 Work out.

$$\frac{2}{5} \div 9$$

..... [2]

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16 This table shows information about the number of goals scored by 20 football players.

Number of goals	1	2	3	4
Number of players	10	3	6	1

Work out the mean.

..... [2]

17 A is the point $(-2, 3)$ and B is the point $(3, -4)$.
Point A is translated onto point B.

Find the vector for this translation.

$\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [2]

18 A notepad costs \$$x$.
A pencil costs y cents.

Write down an expression for the total cost, in **cents**, of 3 notepads and 5 pencils.

..... [2]

19 Write 6.39×10^{-2} as an ordinary number.

..... [1]

20 Factorise completely.

$$6ab - 9a^2$$

..... [2]

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

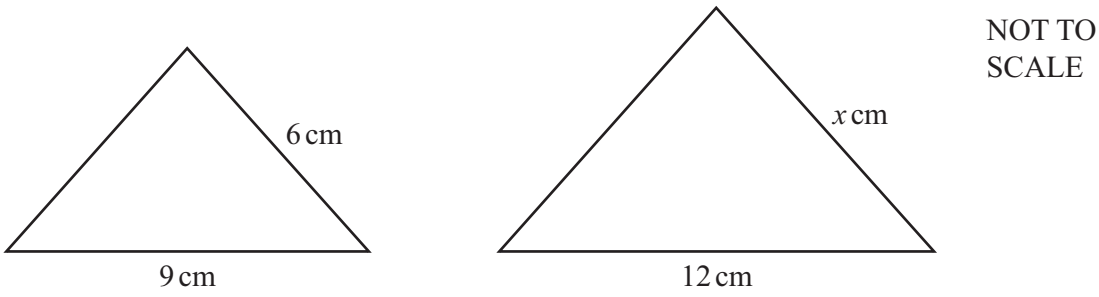
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21 $f(x) = 2x - 4$ for $-1 \leqslant x \leqslant 5$

Complete the statement.

The range of $f(x)$ is $-6 \leqslant f(x) \leqslant$ ..... [1]

22



These triangles are mathematically similar.

Find the value of x.

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

23 Box A and box B both contain red pencils and green pencils.

The probability of taking a red pencil from box A is $\frac{1}{3}$.

The probability of taking a red pencil from box B is $\frac{1}{2}$.

Luis takes a pencil at random from each box.

Work out the probability that Luis takes two red pencils.

..... [2]

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