Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 Non-calculator (Core) **February/March 2025**

1 hour 15 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. You will be given marks for correct methods even if your answer is incorrect.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages.

[Turn over

List of formulas

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle of radius r.	$A = \pi r^2$
Circumference, C, of circle of 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.	$A = \pi rl$
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.	$V = \frac{4}{3}\pi r^3$

Calculators must **not** be used in this paper.

1 This is a list of numbers.

33 34 35 36 37 38 39

From this list, write down

(a) an odd number

..... [1]

(b) the square number

..... [1]

(c) the multiple of 7

..... [1]

(d) the prime number.

..... [1]

2 Write 638.253

(a) correct to 2 decimal places

..... [1]

(b) correct to 4 significant figures

..... [1]

(c) correct to the nearest 10.

..... [1]

3 Work out.

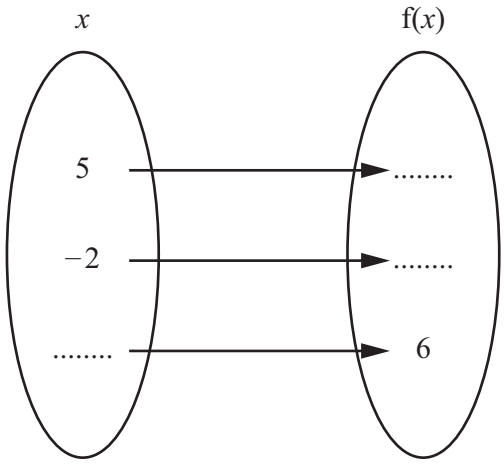
(a) $5 + 3 \times 4 - 2$

..... [1]

(b) $\frac{3}{4} - \frac{1}{3}$

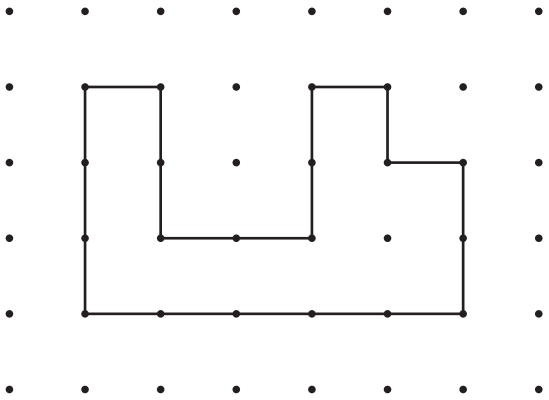
..... [2]

4 Complete the mapping diagram for $f(x) = 2(x+3)$.



[3]

5



The shape is drawn on a 1 cm^2 grid.

(a) Find the perimeter of the shape.

..... cm [1]

(b) Find the area of the shape.

..... cm^2 [1]

6 Find the value of $\sqrt[3]{125} + 2^3$.

..... [2]

7 This is Haruna's school timetable for Monday.

	Monday
08 00 to 09 00	English
09 00 to 09 45	History
09 45 to 10 00	Break Time
10 00 to 11 00	Mathematics
11 00 to 12 00	Science
12 00 to 13 00	Lunch Time
13 00 to 14 00	Art
14 00 to 15 00	Art

(a) Complete the statement.

The length of Haruna's Break Time is ..... minutes.

[1]

(b) Work out how much longer Haruna is in Art than in History.

..... h ..... min [2]

8 The price of a bicycle is $600.
This price is reduced by 15% in a sale.

Work out the sale price of the bicycle.

$ ..... [2]

9 Solve.

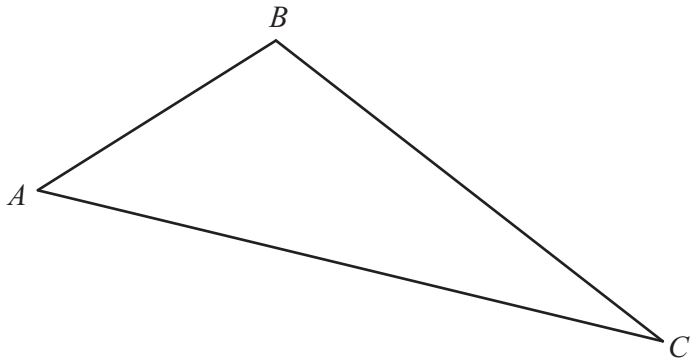
(a) $3x = 18$

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

(b) $2x + 1 = x - 4$

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

10



The diagram shows triangle ABC.

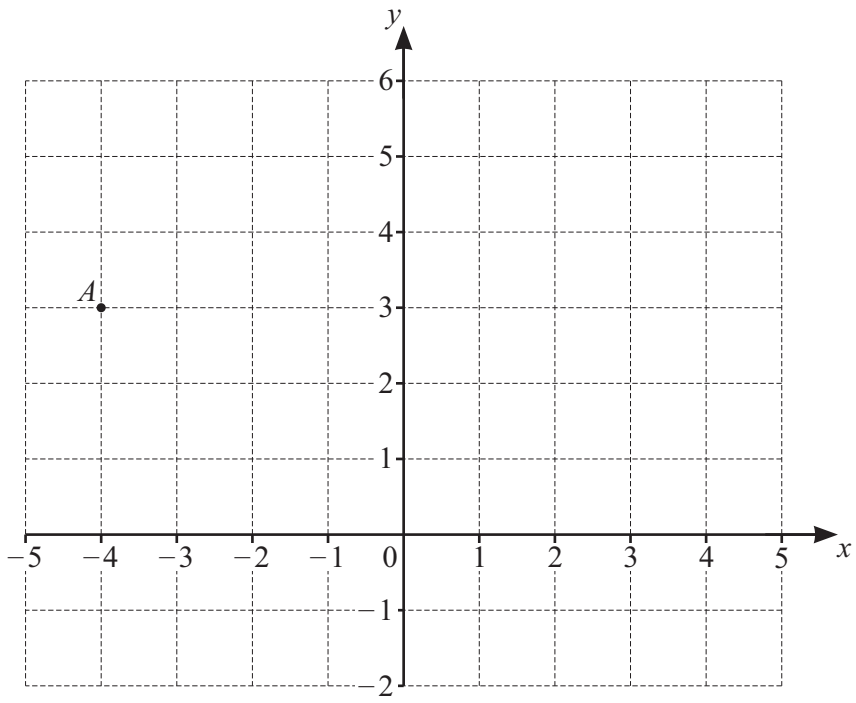
(a) Measure angle ABC.

Angle $ABC =$ ..... [1]

(b) Measure the length of AC.

$AC =$ .....cm [1]

11



The diagram shows a $1\,cm^2$ grid.
Point A has coordinates $(-4, 3)$.

(a) Point B has coordinates $(2, -1)$.

On the diagram, plot point B. [1]

(b) Draw the line AB.

Find the coordinates of the midpoint of AB.

(..... , ...) [1]

(c) Find the gradient of AB.

..... [2]

12 These are the first 4 terms of a sequence.

101 88 75 62

(a) Write down the rule for continuing the sequence.

..... [1]

(b) Find the next 2 terms of the sequence.

..... and ..... [2]

(c) Find the nth term of this sequence.

..... [2]

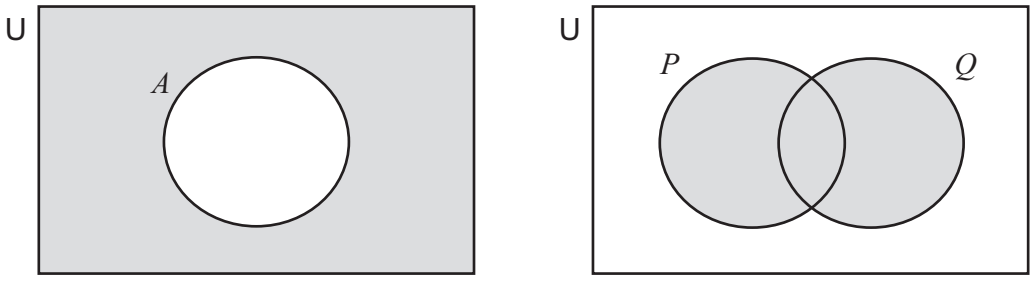
13 Factorise $8x^2 - 36x$.

..... [2]

14 Show that $3^{-3} \times 18 = \frac{2}{3}$.

[2]

15 Use set notation to describe each shaded region.



.... [2]

16 A cup contains 3 blue marbles and 4 red marbles.
Fred picks a marble at random from the cup, notes the colour and replaces it.

(a) Find the probability that Fred picks a red marble.

..... [1]

(b) Fred repeats this 140 times.

Find the expected number of times that Fred picks a red marble.

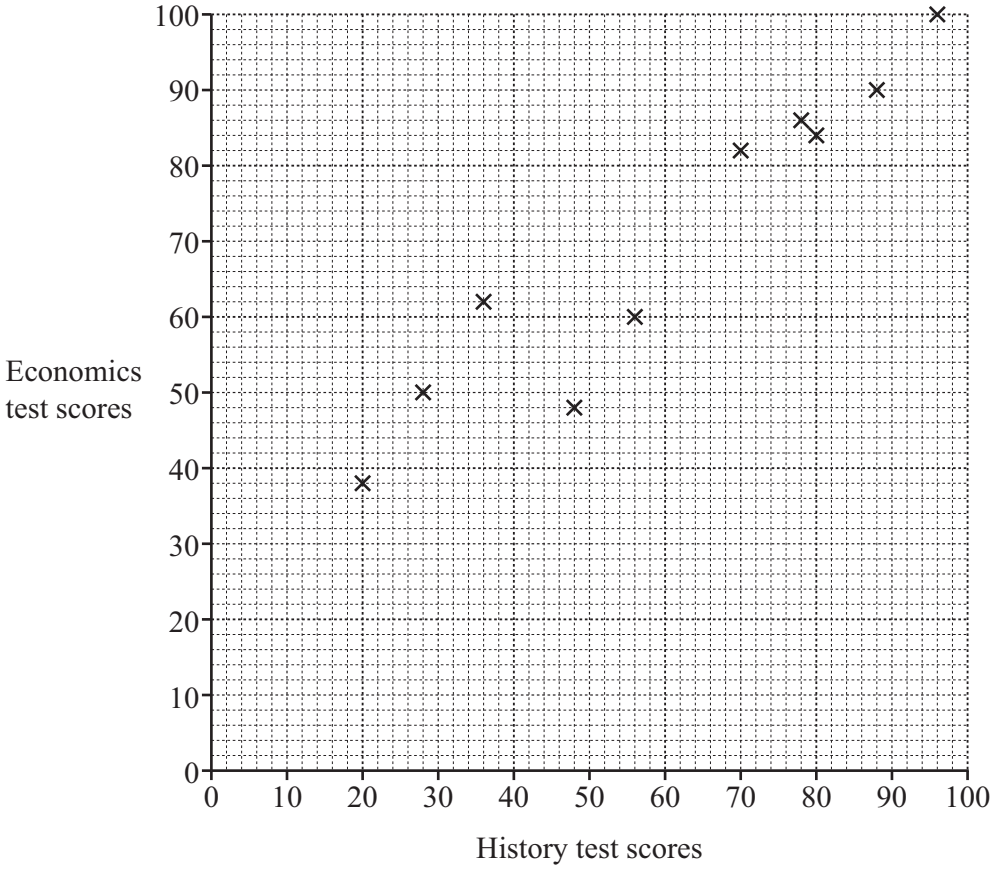
..... [2]

17 Line L is parallel to the line with equation $y = 3x - 7$.
Line L passes through the point (2, 5).

Find the equation of line L.

$y =$ ..... [3]

18 10 students each take a history test and an economics test.
Their scores are shown on the scatter diagram.



The mean score for history is 60.
The mean score for economics is 70.

(a) On the diagram, draw a line of best fit. [2]

(b) Terry scores 64 on the history test.

Use your line of best fit to find an estimate for his score on the economics test.

..... [1]

19 **(a)** $7^x \times 7^3 = 7^6$

Find the value of x.

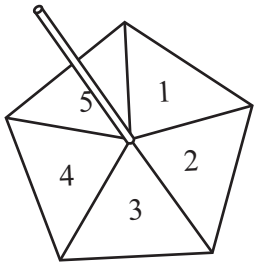
$x =$ ..... [1]

(b) $\frac{8^{12}}{8^y} = 8^4$

Find the value of y.

$y =$ ..... [1]

20 The diagram shows a 5-sided spinner.



Gigu spins the spinner 200 times.
Gigu records the number that the spinner lands on each time.
The results are shown in the table.

Number	1	2	3	4	5
Frequency	36	33	60	41	30

(a) Find the relative frequency that the spinner lands on 4.

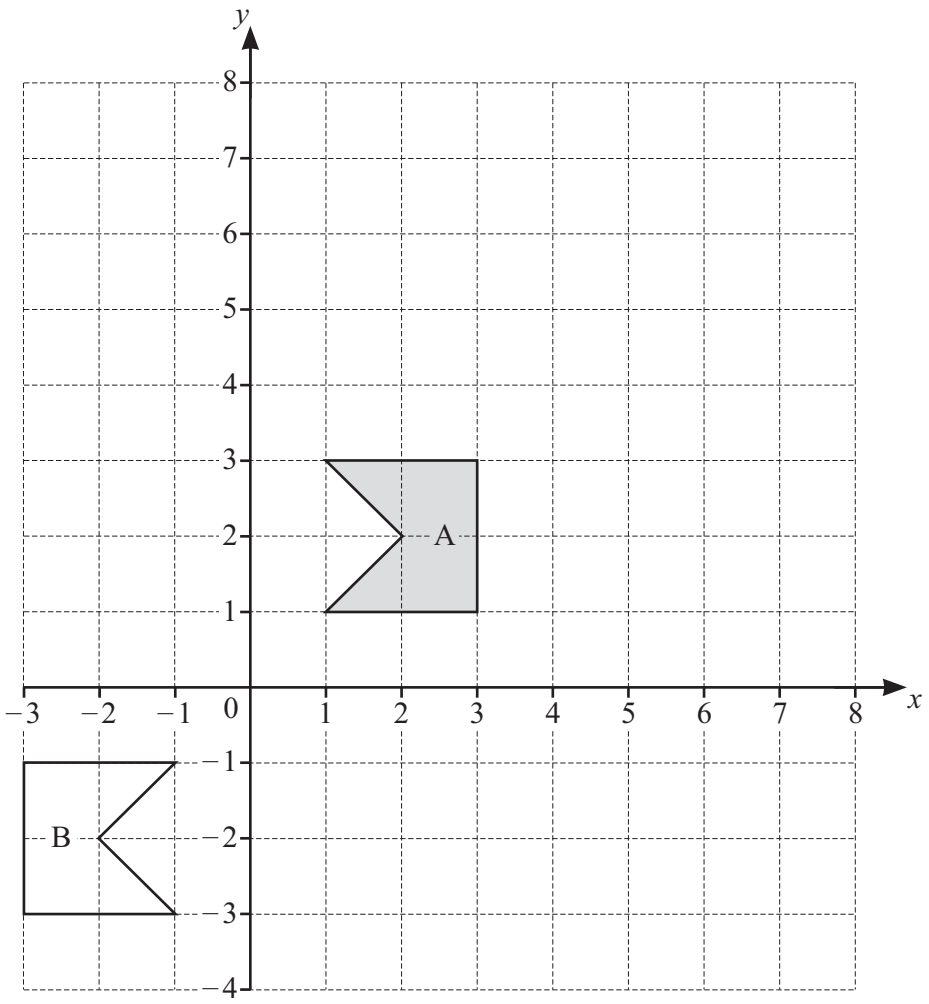
..... [1]

(b) Find an estimate of the probability that the spinner lands on a number less than 3.

..... [1]

Question 21 is printed on the next page.

21



(a) Describe fully the **single** transformation that maps shape *A* onto shape *B*.

.....

..... [3]

(b) Translate shape *A* by the vector $\begin{pmatrix} 2 \\ -4 \end{pmatrix}$. [2]