Cambridge Assessment International Education

Cambridge IGCSE™

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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/33**

Paper 3 Calculator (Core) **October/November 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.
- You should use a graphic display calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly. You will be given marks for correct methods, including sketches, even if your answer is incorrect.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

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

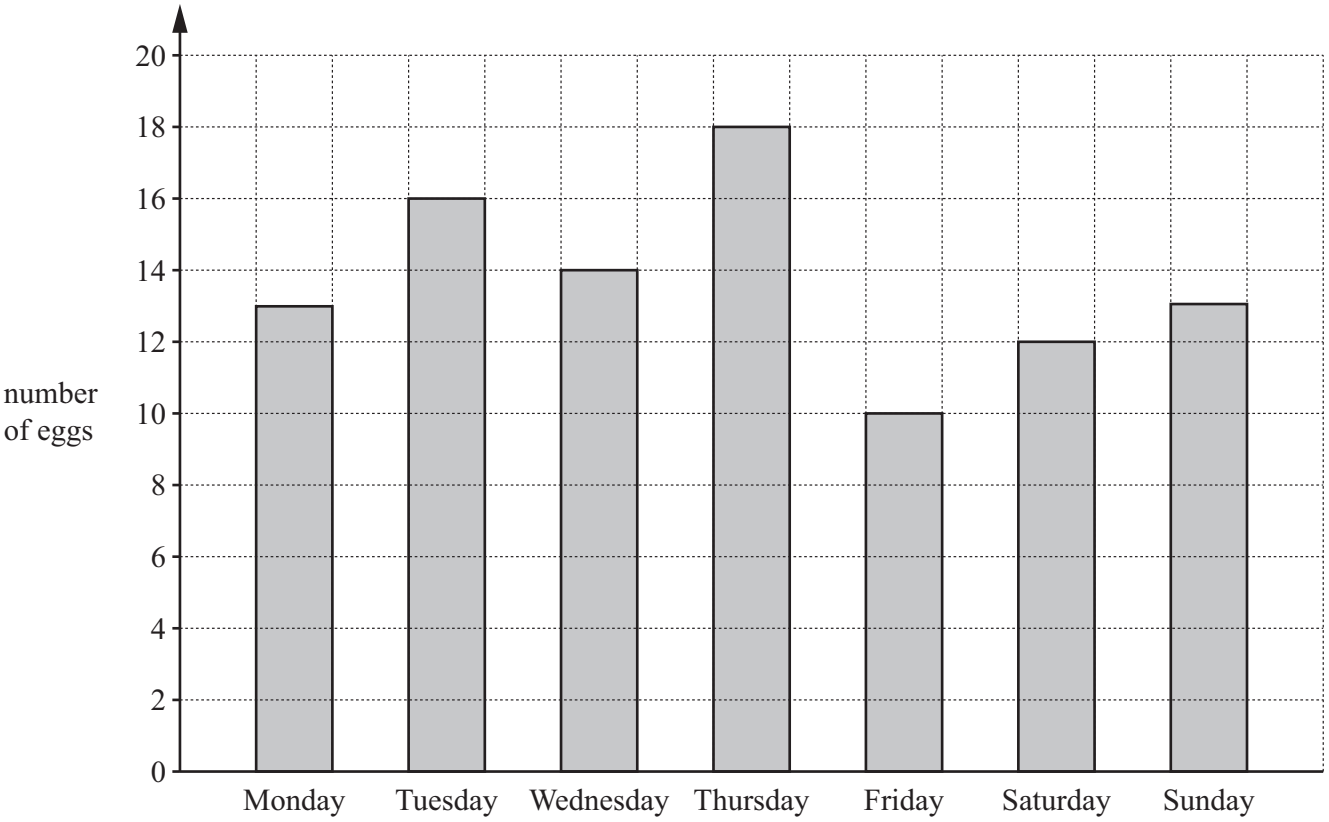
This document has **12** pages. Any blank pages are indicated.

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

1 Aysha has some hens.
The bar chart shows the total number of eggs laid each day in 1 week.



(a) Write down the day on which the most eggs were laid.

..... [1]

(b) Work out how many more eggs were laid on Tuesday than on Friday.

..... [1]

(c) Work out the total number of eggs laid.

..... [1]

(d) Aysha sells the eggs in boxes of 12 eggs.
Each box sells for $3.35 .
She sells all the eggs.

Work out how much she receives.

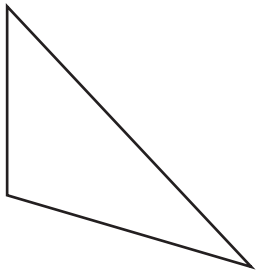
$ ..... [2]

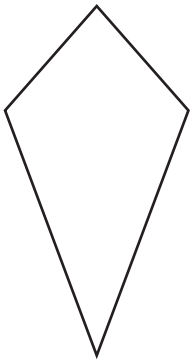
2 Work out the value of $\frac{6.23+4.16}{2.93-1.54}$.

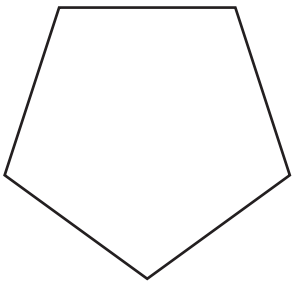
Give your answer correct to 3 decimal places.

..... [2]

3 **(a)** Write down the mathematical name for each of these shapes.







....

[3]

(b) For each shape, draw any lines of symmetry. [2]

4 Sejal has a 4-digit door code.

The first digit is an even prime number.
The second digit is a cube number greater than 1.
The third digit is the highest common factor (HCF) of 12 and 8.
The fourth digit is a triangle number between 2 and 5.

Work out the 4-digit code.

first	second	third	fourth

[4]

5 6 boys and 6 girls each take an online reaction test.
The table shows the reaction time for each person.

boys' times (seconds)	12	36	58	10	40	24
girls' times (seconds)	32	26	31	40	22	29

(a) Compare the mean time for the boys with the mean time for the girls.
Show the values you use.

..... [3]

(b) Compare the range of the times for the boys with the range of the times for the girls.
Show the values you use.

..... [2]

6 Solve.

(a) $9x = 54$

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

(b) $3x - 5 = 10$

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

7 **(a)** Write $3\frac{4}{5}$ as a decimal.

..... [1]

(b) Write 6 as a fraction of 78.
Give your answer in its simplest form.

..... [1]

(c) Write $\frac{3}{8}$ as a percentage.

..... % [1]

8 Zac invests $3500 at a rate of 2.15% per year simple interest.

Work out the value of this investment at the end of 8 years.

$ ..... [3]

9 A pyramid has a square base of side 23 cm.
The volume of the pyramid is 3174 cm^3.

Work out the height of the pyramid.

..... cm [2]

10 A line has equation $3y + 6x = 9$.

(a) Find the gradient of the line.

..... [2]

(b) Find the x-coordinate of the point where the line crosses the x-axis.

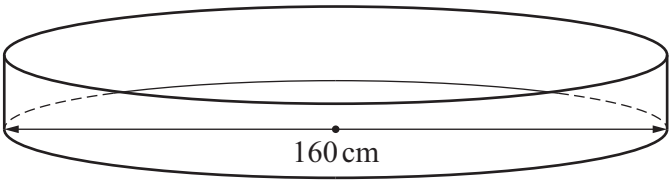
$x =$ ..... [1]

11 Work out $2.3815 \times 10^4 - 1.15 \times 10^2$.

Give your answer in standard form.

..... [2]

12 The diagram shows a large container in the shape of a cylinder.



NOT TO SCALE

The container has a circular base with an internal diameter of 160 cm.
The container has height 9 cm.

The container completely fills up with water.

Work out the volume of water.
Give your answer in litres.

..... litres [4]

13 $(x+c)(x-2) = ax^2 + bx - 16$

Work out the values of a, b and c.

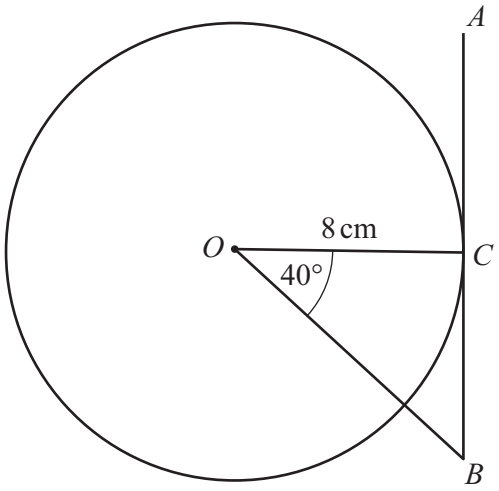
$a =$ .....

$b =$ .....

$c =$ .....

[3]

14



NOT TO SCALE

The diagram shows a circle with centre O and radius 8 cm.
The line AB touches the circle at C.

(a) Write down the mathematical name for the line AB.

..... [1]

(b) Write down the size of angle OCB.

angle OCB = ... [1]

(c) Use trigonometry to find the length of CB.

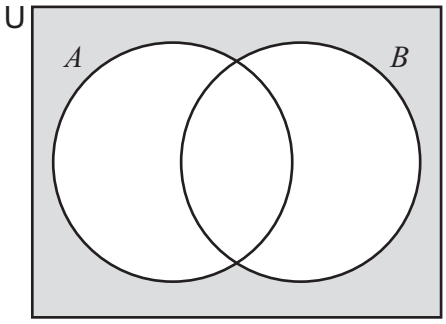
CB = ... cm [2]

15 A cheetah runs at an average speed of 63 km/h.

Work out how far the cheetah runs in 8 seconds.
Give your answer in metres.

..... m [3]

16 Use set notation to describe the shaded region.



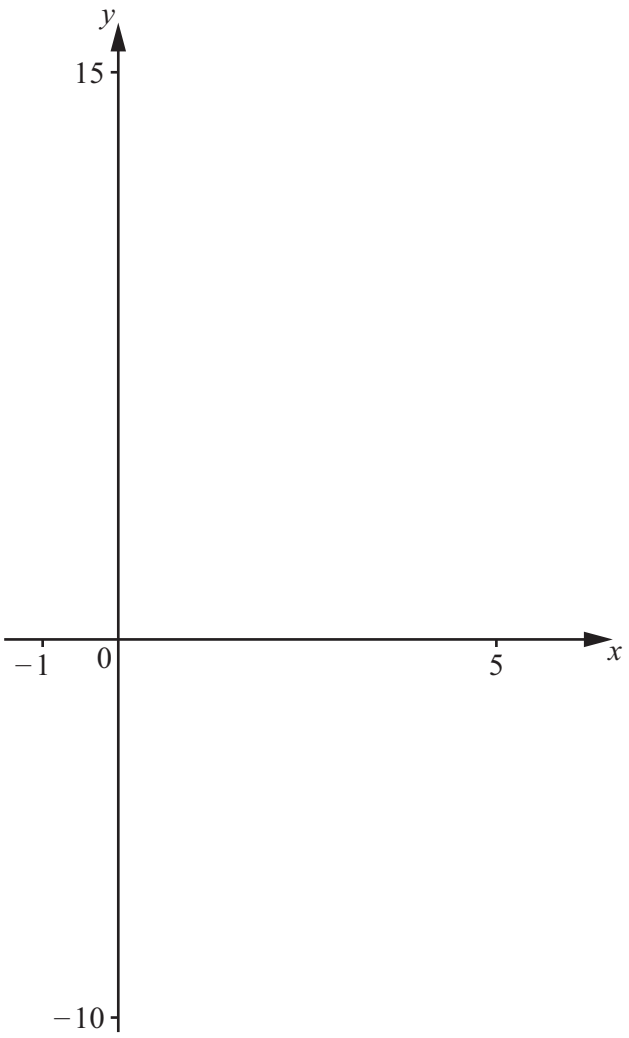
..... [1]

17 $\sqrt{64} = x^3$

Find the value of x.

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

18



(a) On the diagram, sketch the graph of $y = 2x^2 - 8x + 3$ for values of x from -1 to 5. [2]

(b) Write down the coordinates of the point where the graph crosses the y-axis.

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

(c) Find the x-coordinate of each point where the graph crosses the x-axis.

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

(d) Find the coordinates of the local minimum.

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

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