Cambridge Assessment International Education

Cambridge IGCSE™

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CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/03**

Paper 3 Calculator (Core) **For examination from 2025**

SPECIMEN PAPER B **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.

[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 Work out 13.68^3 .

Write down all the numbers on your calculator display.

..... [1]

2 Work out $\frac{284 - 632}{14}$.
Give your answer correct to the nearest whole number.

..... [2]

3 Candy bars cost \$0.72 each.

Work out the greatest number of candy bars that can be bought for \$8.

..... [2]

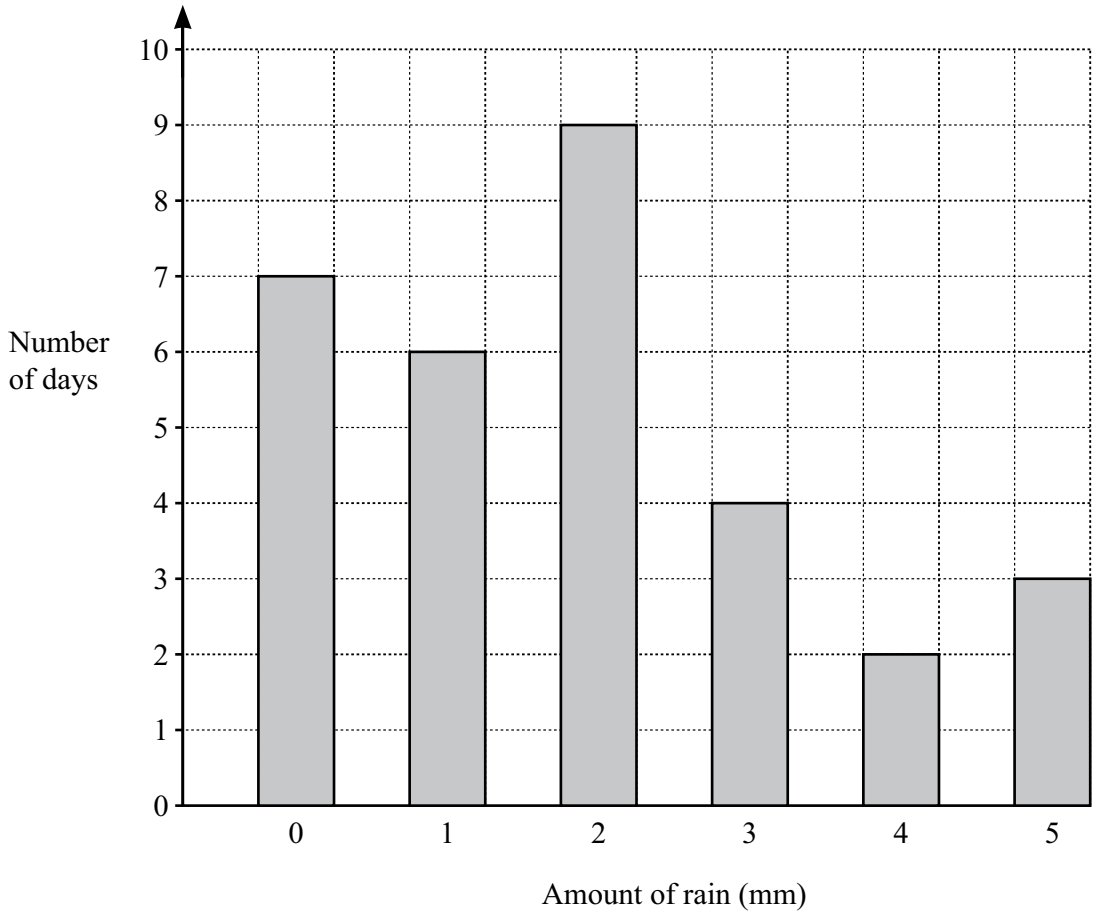
4 Work out $\sqrt{2.43^2 + 1.65^2}$.
Give your answer correct to 2 decimal places.

..... [2]

5 Work out 65% of 34.

..... [1]

6 The bar chart shows the amount of rain each day for 31 days.



(a) Write down the mode.

..... mm [1]

(b) Write down the number of days that had no rain.

..... [1]

(c) Work out the mean amount of rain per day.

..... mm [3]

7 Greta joins a gym.
These are the ways she can pay to use the gym.

	Cost
Weekly	\$5.95
Monthly	\$25.00
Yearly	\$297.75

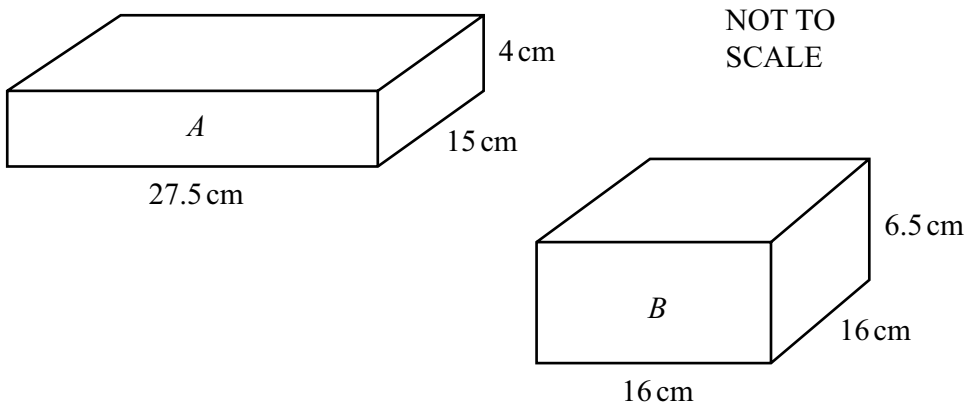
Work out the cheapest way to pay to use the gym for one year.
You must show all your working.

..... [3]

8 Work out $\frac{3}{10} \times \frac{5}{6}$.

..... [1]

9 These are two cuboids, A and B.



(a) Find the difference between the volumes of the two cuboids.

..... cm^3 [4]

(b) The total surface area of A is $1165\,cm^2$.
The total surface area of B is x% of the total surface area of A.

Find the value of x.

x = ... [5]

10 Ali invests \$2400 at a rate of 5% per year compound interest.

Find the value of the investment at the end of 3 years.

\$ ..... [2]

11 For each journey, a taxi driver charges a fixed amount of \$3 and then \$1.50 for each kilometre travelled.

(a) Menno travels 15 kilometres in the taxi.

Work out the cost of Menno's journey.

\$ ..... [2]

(b) Write a formula for the cost, \$$C$, for a journey of n kilometres in the taxi.

..... [2]

(c) Razvi pays \$37.50 for a journey in the taxi.

Work out how many kilometres Razvi travels.

..... km [2]

12 Mani rolls a biased die 200 times.
She records the number on the top face each time.

Her results are shown in the table.

Number on the top face	1	2	3	4	5	6
Frequency	21	26	19	84	27	23

(a) Write down the relative frequency of Mani recording a 2.

..... [1]

(b) Mani rolls the die 1000 times.

Work out an estimate of the number of times she records a 4.

..... [2]

13 Work out $(8.4 \times 10^3) \times (1.5 \times 10^{-8})$, giving your answer

(a) as an ordinary number

..... [1]

(b) in standard form.

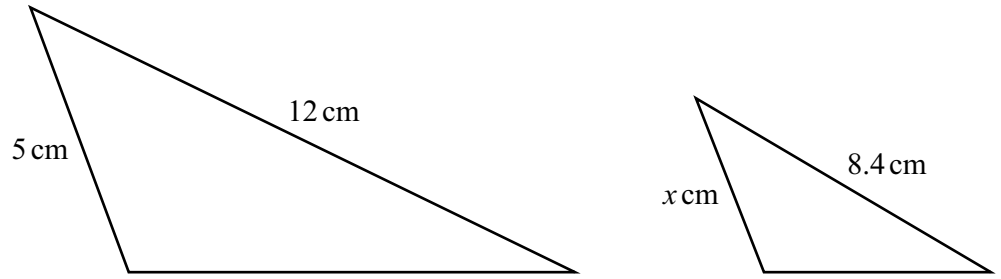
..... [1]

14 Tammi travels 7 km at an average speed of 30 km/h.

Find the number of minutes this journey takes.

..... minutes [2]

15 These two triangles are mathematically similar.

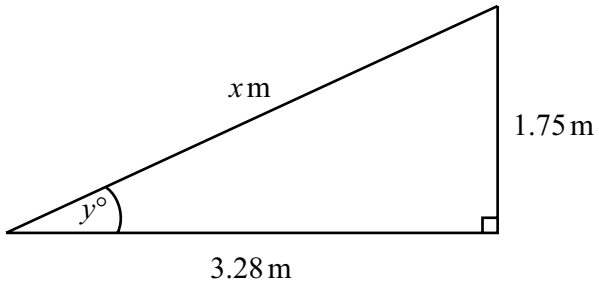


NOT TO SCALE

Work out the value of x.

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

16



NOT TO SCALE

(a) Find the value of x.

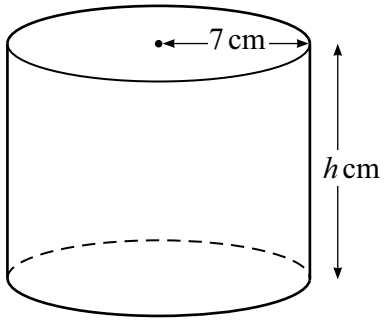
$x =$ ..... [2]

(b) Find the value of y.

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

17

NOT TO SCALE



A cylinder has radius 7 cm and height h cm.

(a) Show that the area of the circular end of this cylinder is 154 cm^2, correct to the nearest whole number.

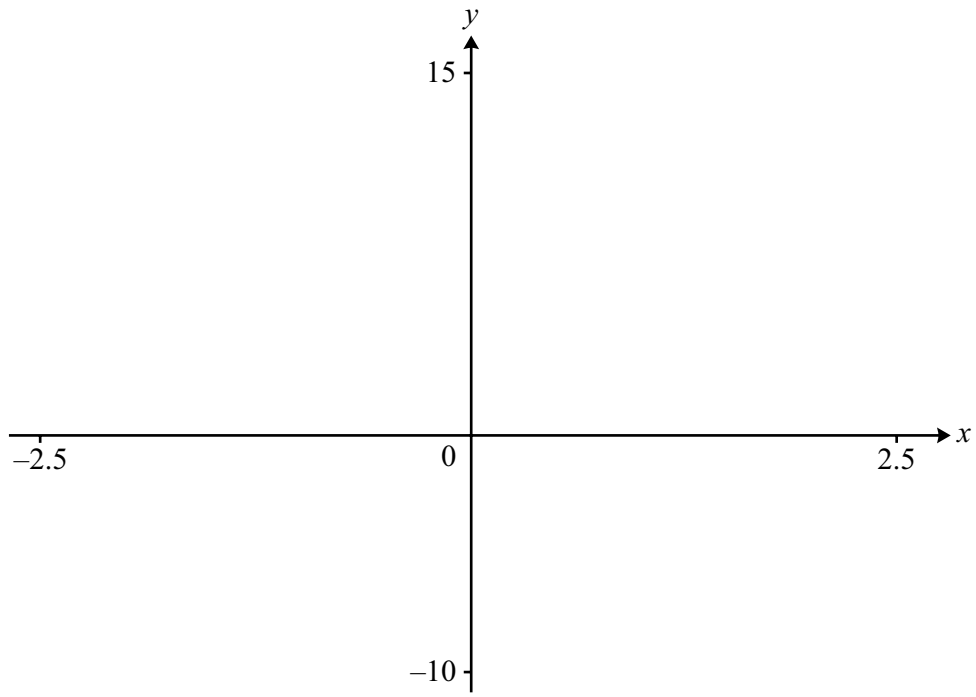
[2]

(b) The volume of this cylinder is 2 litres.

Work out the value of h.

$h =$ ..... [2]

18



$f(x) = 3x^2 - 1.5x - 9$

(a) On the diagram, sketch the graph of $y = f(x)$ for values of x between –2.5 and 2.5. [2]

(b) Find the coordinates of the points where the graph crosses

(i) the x-axis

(..... , ...) and (..... , ...) [2]

(ii) the y-axis.

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

(c) Find the coordinates of the local minimum.

(..... , ...) [2]

(d) Find the x coordinates of the two points of intersection of the graph of $y = f(x)$ and the line $y = 5$.

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

