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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/03

Paper 3 Calculator (Core)

For examination from 2025

SPECIMEN PAPER

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.

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 . $V = Al$

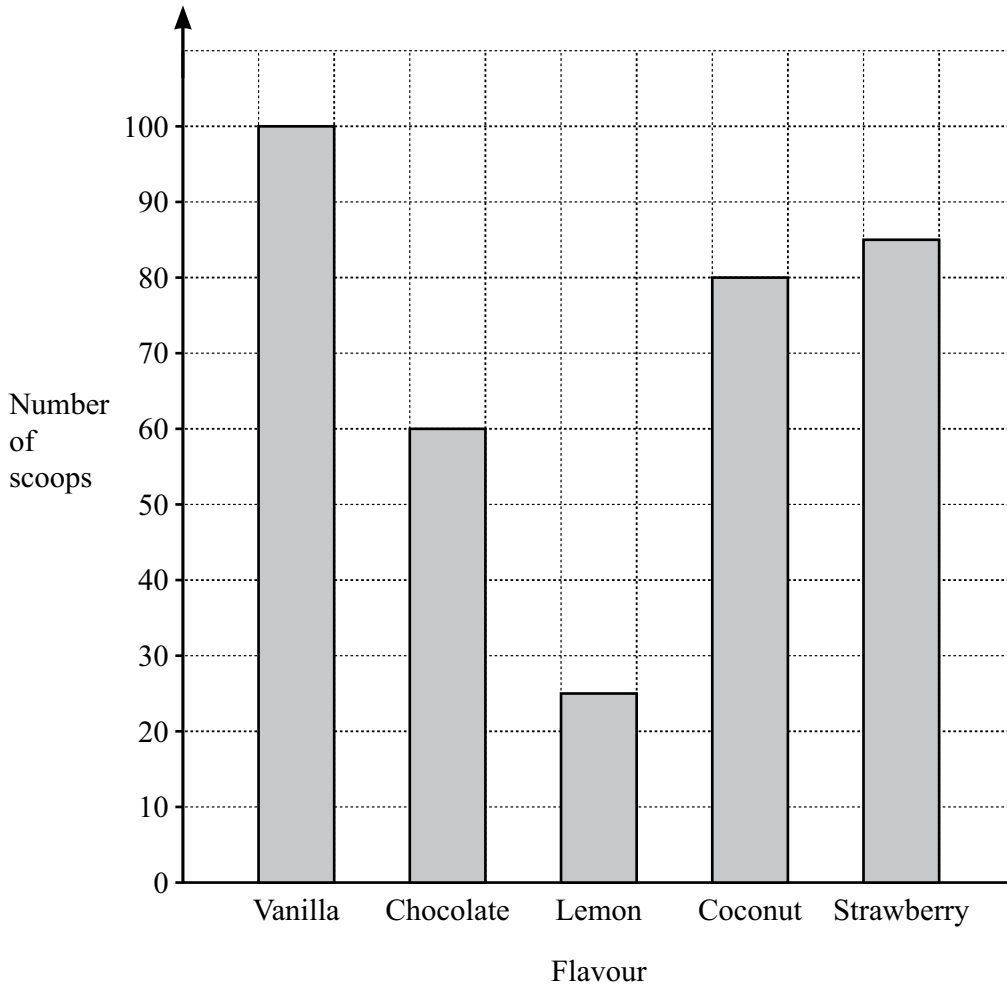
Volume, V , of pyramid, base area A , height h . $V = \frac{1}{3}Ah$

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



The bar chart shows the number of scoops of different flavours of ice cream sold one day.

(a) Write down the most popular flavour of ice cream.

..... [1]

(b) Work out how many **more** scoops of chocolate ice cream were sold than scoops of lemon ice cream.

..... [2]

(c) Work out the total number of scoops of ice cream sold.

..... [1]

2 Mount Fuji is 3776 metres high.

(a) Mount Everest is 5073 m higher than Mount Fuji.

Work out the height of Mount Everest.

..... m [1]

(b) The mountain K2 is 8611 metres high.

Work out how much higher K2 is than Mount Fuji.

..... m [1]

3 Work out.

$$\frac{3.62 + 1.48}{2.91 - 1.63}$$

Give your answer correct to 2 decimal places.

..... [2]

4 A television series has 35 episodes.

(a) Katie watches 2 episodes every day.

Work out how many days it will take Katie to watch the 35 episodes.

..... days [1]

(b) Each episode is 40 minutes long.

Manav says that Katie could have watched all 35 episodes in one day.

Is Manav correct?
Show how you decide.

..... because

..... [2]

5 An online song has 2.8×10^9 downloads.

(a) Write 2.8×10^9 as an ordinary number.

..... [1]

(b) The musician who recorded the song receives \$0.004 for every download.

Work out how much money the musician receives.
Give your answer as an ordinary number.

\$ [2]

6 Mariska cycles from home to work.
It takes her 1 hour 24 minutes.

(a) Change 1 hour 24 minutes into minutes.

..... minutes [1]

(b) Mariska arrives at work at 09 08.

Work out the time at which she left home.

..... [1]

7 Find the value of 2.1^4 .

..... [1]

8 Divide 76 in the ratio 3 : 1.

..... : [2]

9 A circle has a radius of 6.21 cm.

(a) Calculate the circumference of the circle.

..... cm [2]

(b) An equilateral triangle has the same perimeter as the circumference of the circle.

(i) Work out the length of one side of the equilateral triangle.

..... cm [1]

(ii) Work out the area of the equilateral triangle.

..... cm² [3]

- 10 Yin invests \$650 at a rate of 1.3% per year simple interest.

Calculate the total amount Yin receives at the end of 10 years.

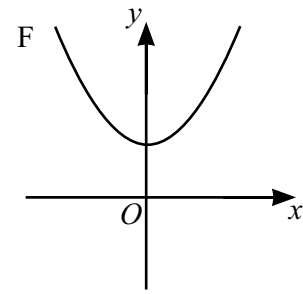
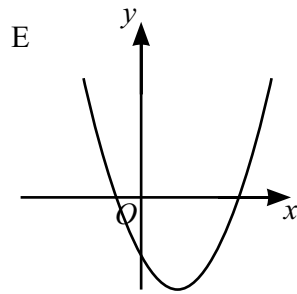
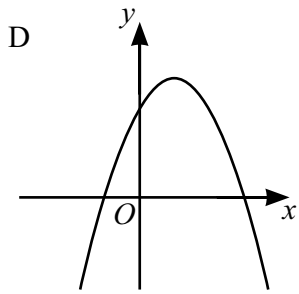
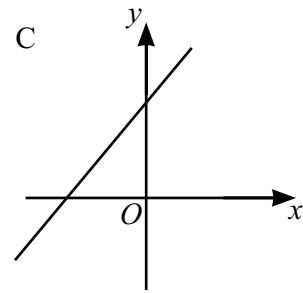
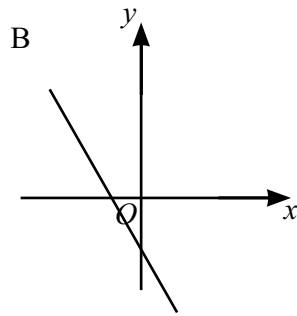
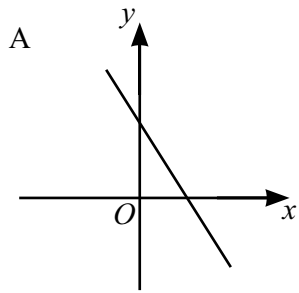
\$ [3]

- 11 Prija takes part in a 500 metre race.
She completes the 500 metres in 2 minutes 30 seconds.

Work out Prija's average speed in km/h.

..... km/h [3]

12 Here are sketches of six graphs labelled A to F.

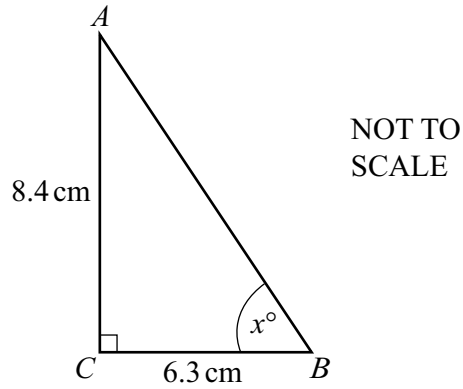


Complete the table by identifying a possible graph for each equation.

Equation	Graph (A, B, C, D, E or F)
$y = -x^2 + 4x + 5$	
$y = -2x + 4$	
$y = 0.5x^2 - 2x - 6$	

[3]

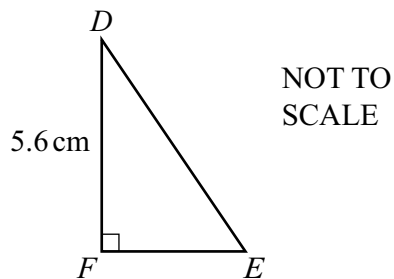
13



ABC is a right-angled triangle.
 $AC = 8.4\text{ cm}$ and $CB = 6.3\text{ cm}$.

- (a) Use trigonometry to find the value of x .

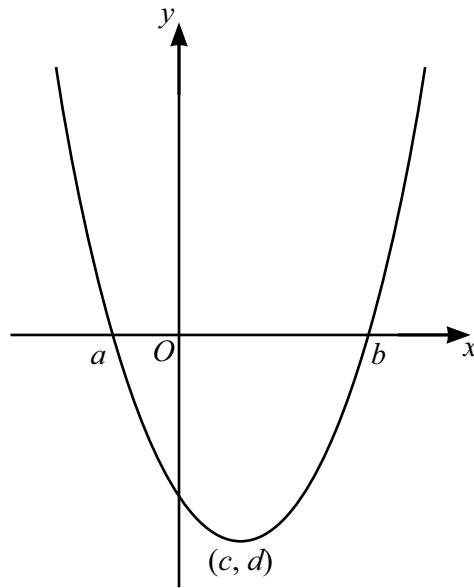
$x = \dots\dots\dots$ [2]



- (b) Triangle DEF is mathematically similar to triangle ABC .
 $DF = 5.6\text{ cm}$.

Work out the length of FE .

$FE = \dots\dots\dots\text{ cm}$ [2]



The diagram shows the graph of $y = x^2 - 2x - 3$.

Draw the graph of $y = x^2 - 2x - 3$ on your calculator and use it to answer the following questions.

(a) Find the values of a , b , c and d .

$a =$

$b =$

$c =$

$d =$

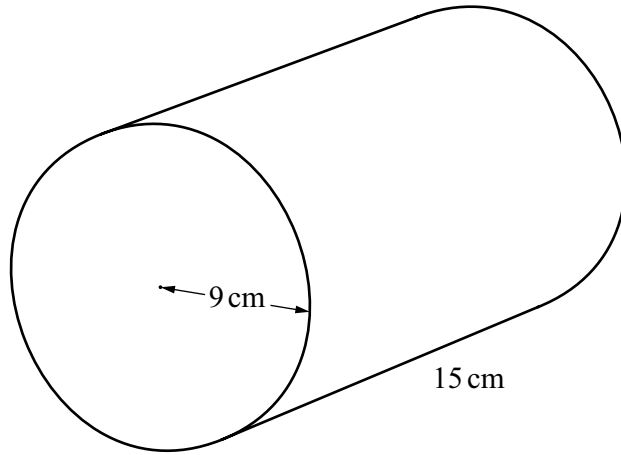
[4]

(b) On the diagram, sketch the line $y = x + 1$.

[2]

(c) Find the points of intersection of $y = x^2 - 2x - 3$ and $y = x + 1$.

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



NOT TO SCALE

The diagram shows a cylinder with radius 9 cm and length 15 cm.

(a) Work out

(i) the volume of the cylinder

.....cm³ [2]

(ii) the total surface area of the cylinder.

.....cm² [3]

(b) Tommy rolls the cylinder a distance of 20 metres.

Work out the number of complete turns that the cylinder makes.

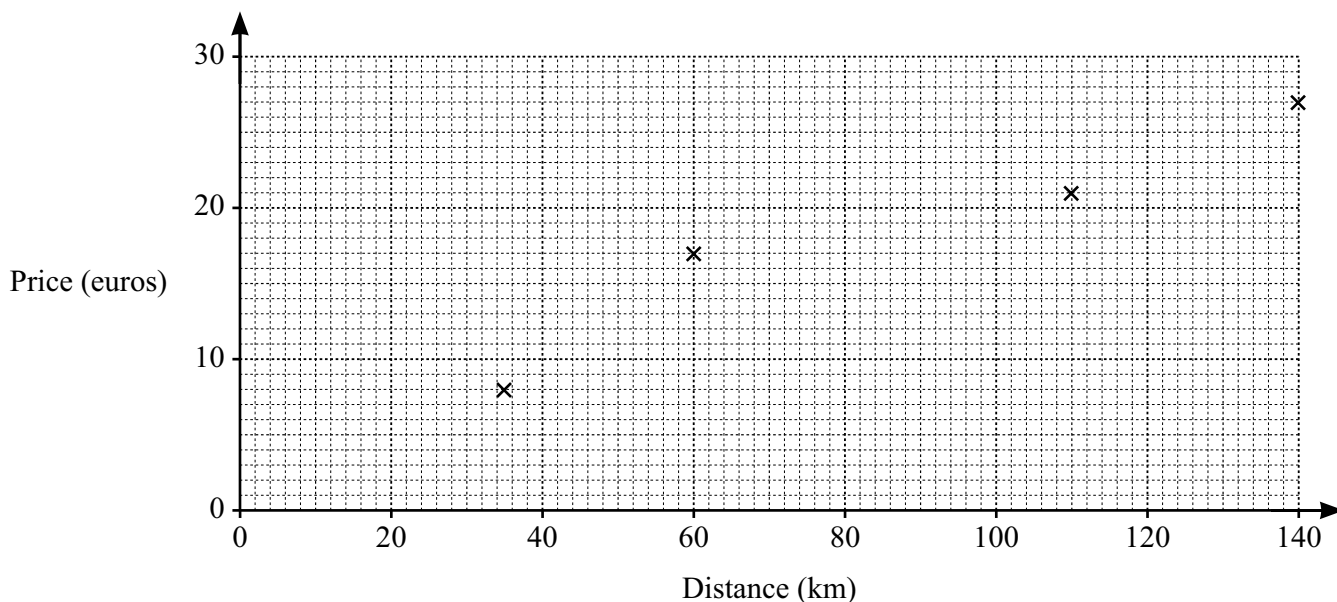
..... [3]

Question 16 is printed on the next page.

16 The table shows the distance, in km, from a city to 8 towns and the price of the train ticket to each town in euros.

Distance (km)	60	140	110	35	80	90	65	20
Price (euros)	17	27	21	8	25	22	19	5

- (a) Complete the scatter diagram.
The first 4 points have been plotted for you.



[2]

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

..... [1]

- (c) The mean point is (75, 18).

Draw a line of best fit on the scatter diagram. [2]

- (d) Use your line of best fit to estimate the price for a journey of 50 km.

..... euros [1]

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