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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/32

Paper 3 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.
- 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.



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 One can of lemonade costs 65 cents.
Larkin buys 7 cans of lemonade.

Work out how much change Larkin gets from \$5.

\$ [2]

- 2 Work out $\frac{6.23 + 5.84}{3.61 - 1.87}$.

..... [1]

- 3 $x - y + 2z = 4.1$

Work out the value of x when $y = 2.5$ and $z = 1.6$.

$x =$ [2]

- 4 Convert 5000 centimetres to metres.

..... m [1]





5 These are the masses, in kg, of each of 11 kangaroos.

66, 72, 90, 85, 91, 78, 86, 67, 72, 82, 80

(a) Find the mean mass.

..... kg [1]

(b) Complete the ordered stem-and-leaf diagram and the key.

6	
7	
8	
9	

Key | represents kg [3]

(c) Find.

(i) the mode

..... kg [1]

(ii) the median

..... kg [1]

(iii) the interquartile range.

..... kg [2]





6 (a)



Write down the fraction of the shape that is shaded.

..... [1]

(b) Write the numbers 0.4 $\frac{1}{5}$ 25% in order of size, starting with the smallest.

.....,, [1]
smallest

7 Suki changes \$500 to Yen.
The exchange rate is \$1 = 128.42 Yen.

(a) Suki spends 55 000 Yen.

Work out how many Yen she has left.

..... Yen [2]

(b) Suki changes the Yen she has left back to dollars.
The exchange rate is \$1 = 124.12 Yen.

Work out how many dollars she receives.

\$ [1]





8 (a) Simplify $3x + 4x - 5x$.

..... [1]

(b) Expand and simplify $(x - 3)(2x + 7)$.

..... [2]

9 Samira buys these items.

1.5 kg of apples at \$2.40 per kg.

Some packets of rice at \$4.35 per packet.

Samira pays a total of \$16.65 .

Work out how many packets of rice she buys.

..... [3]

10 Divide 336 in the ratio $6 : 1$.

....., [2]





- 11 Ricardo invests \$600 at a rate of 1.2% per year compound interest.

Find the value of Ricardo's investment at the end of 4 years.

\$ [2]

- 12 A phone costs \$538.
The cost of the phone is increased to \$570.28 .

Work out the percentage increase.

..... % [2]

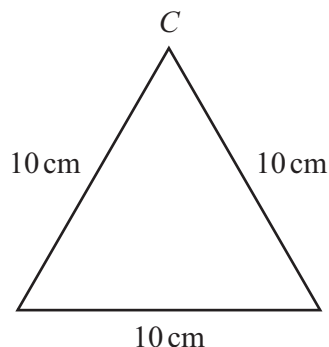
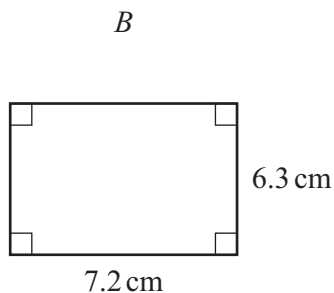
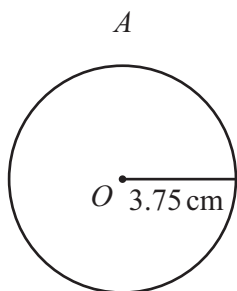
- 13 Write 2560 in standard form.

..... [1]





- 14 These are 3 shapes, A , B and C .
 O is the centre of shape A .



NOT TO
SCALE

- (a) Write down the mathematical name for each shape.

A

B

C

[2]

- (b) Use Pythagoras' theorem to show that the perpendicular height of shape C is 8.66 cm correct to 2 decimal places.

[3]

- (c) Work out the area of each shape.

A cm^2

B cm^2

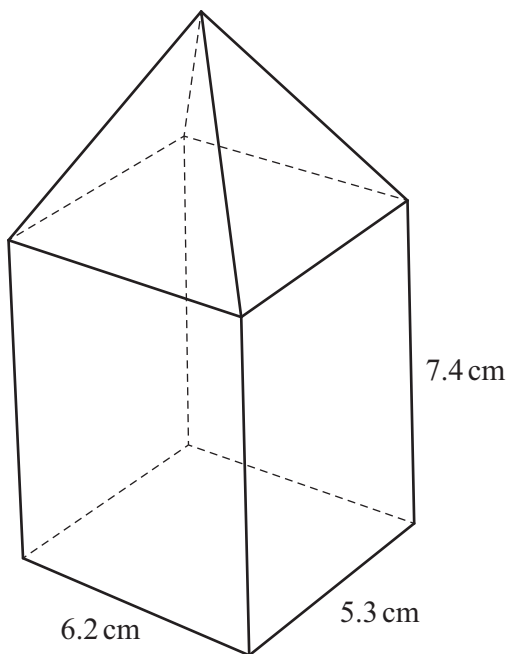
C cm^2

[4]





15 The diagram shows a solid trophy.



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The trophy is made by joining a pyramid to a cuboid.

The cuboid has dimensions 6.2 cm by 5.3 cm by 7.4 cm.

The height of the pyramid is H cm.

The total height of the trophy is 10.2 cm.

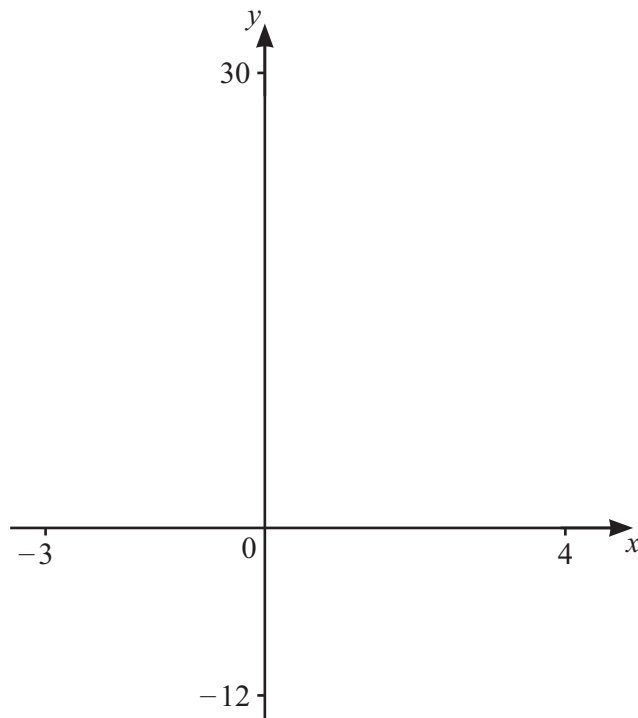
(a) Show that $H = 2.8$.

[1]

(b) Work out the total volume of the trophy.

..... cm^3 [4]





(a) On the diagram, sketch the graph of $y = 2x^2 + x - 6$ for values of x between -3 and 4 . [2]

(b) (i) On the diagram, sketch the graph of $y = 3 + 2x - x^2$ for values of x between -3 and 4 . [2]

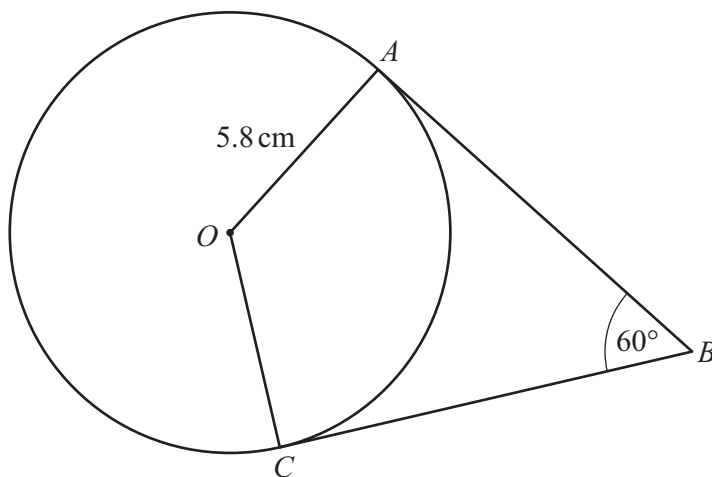
(ii) Find the coordinates of the maximum of $y = 3 + 2x - x^2$.
(..... ,) [1]

(c) Find the x -coordinate of each point of intersection of $y = 2x^2 + x - 6$ and $y = 3 + 2x - x^2$.
 $x = \dots\dots\dots$ and $x = \dots\dots\dots$ [2]





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The diagram shows a circle with centre O and radius 5.8 cm.
 BA and BC are tangents to the circle.
 Angle $ABC = 60^\circ$.

(a) Show that angle $AOC = 120^\circ$.

[2]

(b) Find the length of the arc AC .

.....cm [2]

(c) Find the length of AB .

.....cm [3]





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