



Cambridge IGCSE™

CANDIDATE NAME



CENTRE NUMBER

--	--	--	--	--

CANDIDATE NUMBER

--	--	--	--



CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/22

Paper 2 (Extended)

October/November 2024

45 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 and you will be given marks for correct methods even if your answer is incorrect.
- All answers should be given in their simplest form.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [].

This document has 8 pages.





Formula List

For the equation $ax^2 + bx + c = 0$ $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

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 . $A = \pi rl$

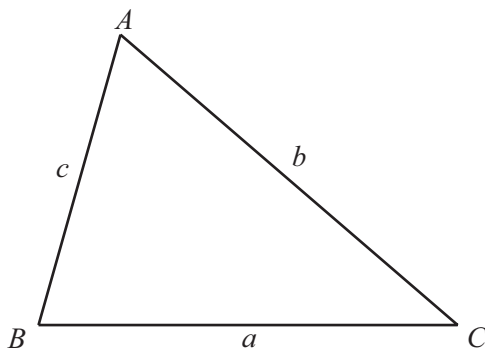
Curved surface area, A , of sphere of radius r . $A = 4\pi r^2$

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



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{Area} = \frac{1}{2}bc \sin A$$





Answer **all** the questions.

1 Complete the statement.

The common factors of 24 and 45 are 1 and [1]

2 Work out $2 \div 0.04$.

..... [1]

3 Expand.

$$x^3(x - 2)$$

..... [2]

4 Alex invests \$200 at a rate of 2% per year simple interest.

Work out the total interest earned at the end of 4 years.

\$ [2]

5 Didi buys 2 books at \$ b each and p magazines at \$ m each.

Find an expression, in terms of b , p and m , for the total amount Didi pays.

\$ [2]



DO NOT WRITE IN THIS MARGIN



6 (a) Rodrigo runs at an average speed of 10 km/h.

Work out the number of minutes he takes to run 5 km.

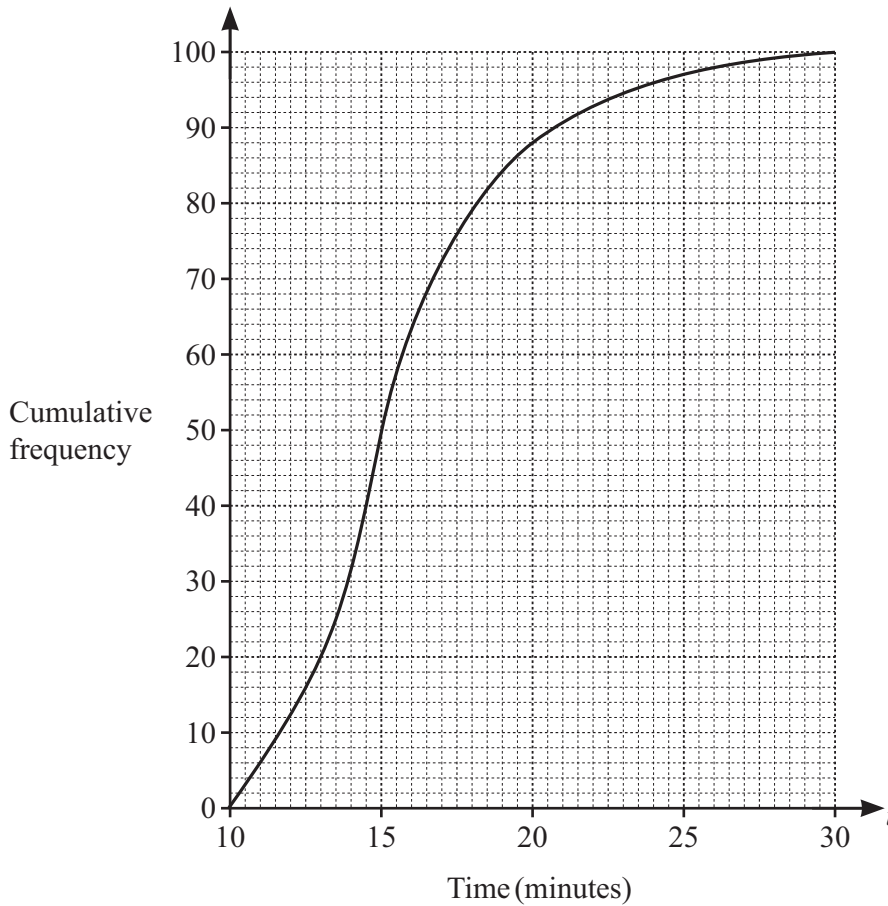
..... min [1]

(b) Roberta takes 1 hour 30 minutes to run 12 km.

Work out Roberta's average speed.

..... km/h [1]

7 Each of 100 students records the time taken to walk one kilometre. The cumulative frequency curve shows the results.



Find

(a) the median

..... min [1]

(b) the lower quartile

..... min [1]

(c) the number of students who took more than 20 minutes to walk one kilometre.

..... [2]





8 Work out $\frac{3}{11} \div \frac{1}{2}$.

..... [2]

9 The interior angle of a regular polygon is 160° .

Work out the number of sides for this polygon.

..... [3]

10 The mean of five numbers is 7.
The five numbers are 3, 5, 10, 11 and x .

Find the value of x .

$x =$ [2]

11 Simplify $(64x^{18})^{\frac{2}{3}}$.

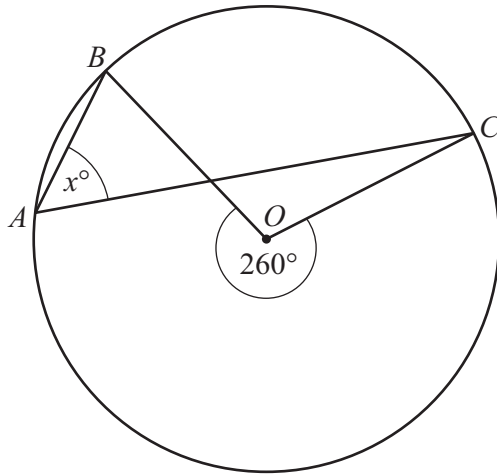
..... [2]



DO NOT WRITE IN THIS MARGIN



12



NOT TO SCALE

A, B and C lie on the circle centre O.

(a) Work out the value of *x*.

x = [2]

(b) *Y* is a point on the minor arc *BYC*.

Work out angle *BYC*.

Angle *BYC* = [1]

13 Simplify fully.

$$\sqrt{20} + \sqrt{45} + \sqrt{80}$$

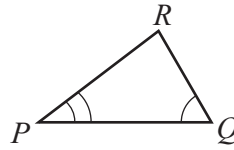
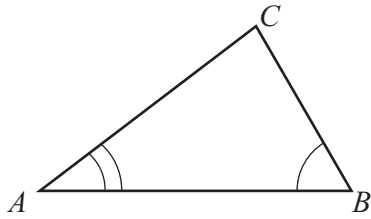
..... [2]

DO NOT WRITE IN THIS MARGIN





14



NOT TO SCALE

The triangles ABC and PQR are similar.
The area of triangle ABC is 24 cm^2 .

$$\frac{PQ}{AB} = \frac{1}{2}$$

Work out the area of triangle PQR .

..... cm^2 [2]

15

$$x^2 + 18x + 2 = (x + p)^2 + t$$

Find the value of p and the value of t .

$p =$

$t =$ [3]

16

y varies inversely as \sqrt{x} .
When $x = 4$, $y = 8$.

Find y in terms of x .

$y =$ [2]

Questions 17 and 18 are printed on the next page.



DO NOT WRITE IN THIS MARGIN



17 $\cos x = -\frac{\sqrt{3}}{2}$ and $0^\circ \leq x \leq 360^\circ$.

Find the values of x .

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

18 $\log 4 + 2 \log x = 2$

Find the value of x .

$x = \dots\dots\dots$ [3]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.

