



Cambridge IGCSE™

CANDIDATE
NAME

CENTRE
NUMBER

--	--	--	--	--

CANDIDATE
NUMBER

--	--	--	--

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/22

Paper 2 (Extended)

February/March 2021

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 . $A = \pi rl$

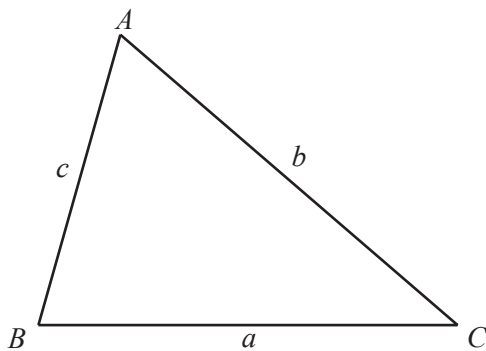
Curved surface area, A , of sphere of radius r . $A = 4\pi r^2$

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 These are the test results for 14 students.

27 19 22 25 18 23 24
17 16 25 17 27 23 26

- (a) Construct an ordered stem-and-leaf diagram to show this information, including a key.



Key: | = [3]

- (b) Find the median.

..... [1]

- 2 Point $A(7, 5)$ is translated to point $B(2, 2)$.

Find the vector that represents this translation.

$\left(\begin{array}{c} \\ \end{array} \right)$ [2]

- 3 Find the highest common factor (HCF) of 84 and 72.

..... [1]

- 4 Solve.

$$|x| + 2 = 7$$

..... [1]

- 5 Point A has coordinates $(-3, 2)$.
Point B has coordinates $(5, -4)$.

(a) Find the mid-point of AB .

(..... ,) [2]

(b) Find the length of AB .

..... [3]

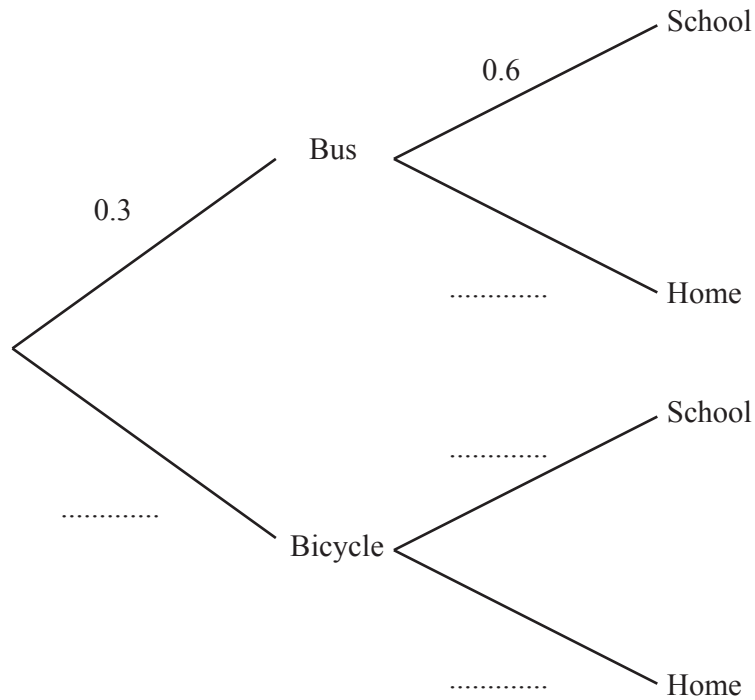
- 6 Find the value of p when $2^6 \div 4^p = 2^7$.

$p =$ [3]

5

- 7 Iraj travels to school either by bus or on a bicycle.
 The probability that he goes by bus is 0.3 .
 He can have lunch at home or at school.
 The probability that he has lunch at school is 0.6 .

(a) Complete the tree diagram.



[2]

- (b) Find the probability that Iraj travels on a bicycle to school and goes home for lunch.

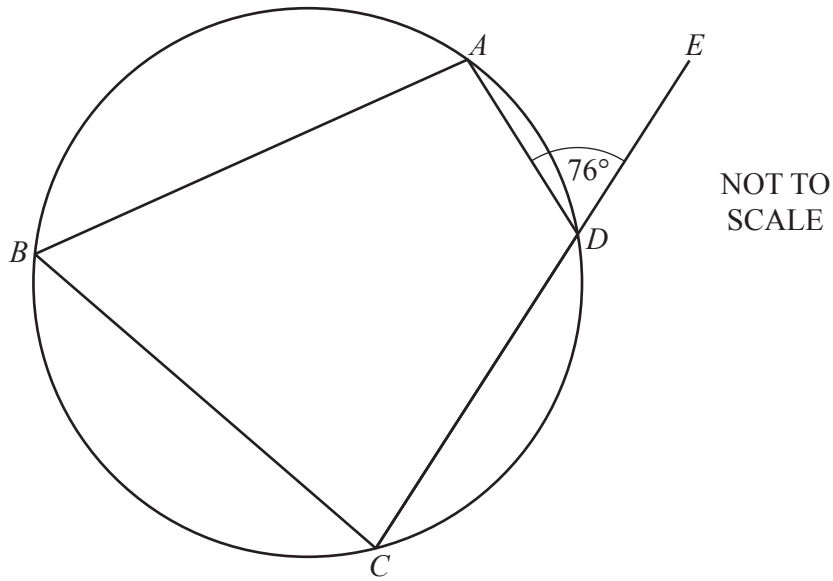
..... [2]

- 8 Expand and simplify.

$$4(2a + 5b) - 3(6b - 3a)$$

..... [2]

9 (a)

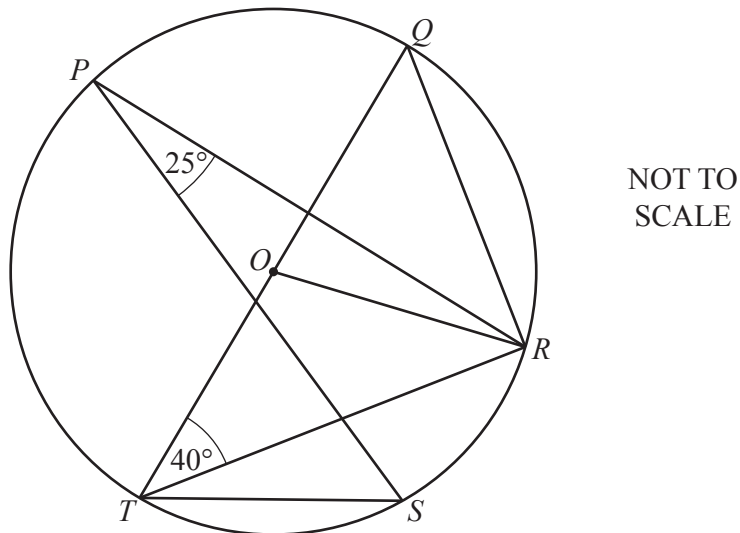


$A, B, C,$ and D are points on a circle.
 CDE is a straight line.

Find angle ABC .

Angle $ABC = \dots\dots\dots [1]$

(b)



P, Q, R, S and T are points on the circle centre O .
 TOQ is a straight line.

(i) Find angle STR .

Angle $STR = \dots\dots\dots [1]$

(ii) Find angle QOR .

Angle $QOR = \dots\dots\dots [1]$

- 10 Aisha picks three number cards from a pack.

The mean of the three numbers is $6\frac{1}{3}$.

She picks another card from the pack.

The mean of the four numbers is $6\frac{1}{2}$.

Work out the number on the fourth card.

..... [3]

- 11 Find the next term and an expression for the n th term of this sequence.

35, 29, 19, 5, ...

next term =

n th term = [3]

- 12 Rearrange this formula to make x the subject.

$$y = \frac{a-x}{3x}$$

$x =$ [3]

Questions 13 and 14 are printed on the next page.

13 Rationalise the denominator and simplify.

$$\frac{2}{\sqrt{5} + 1}$$

..... [3]

14 Write as a single fraction in its simplest form.

$$\frac{3a}{a+4} - \frac{a-1}{2a}$$

..... [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 the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.