Cambridge Assessment International Education

Cambridge IGCSE™

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CENTRE NUMBER						CANDIDATE NUMBER				

4045934305

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.

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Formula List

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

Curved surface area, A, of cylinder of radius r, height h. $\quad A = 2\pi rh$

Curved surface area, A, of cone of radius r, sloping edge l. $\quad A = \pi rl$

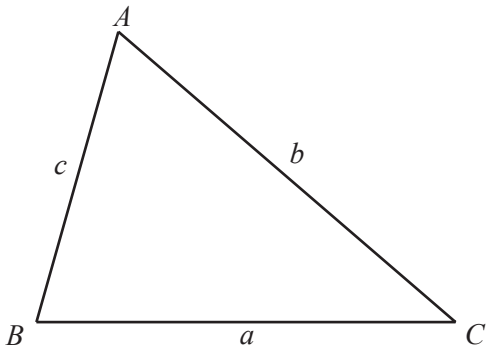
Curved surface area, A, of sphere of radius r. $\quad A = 4\pi r^2$

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

Volume, V, of cylinder of radius r, height h. $\quad V = \pi r^2 h$

Volume, V, of cone of radius r, height h. $\quad V = \frac{1}{3}\pi r^2 h$

Volume, V, of sphere of radius r. $\quad V = \frac{4}{3}\pi r^3$



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

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

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

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.

$\begin{pmatrix} \quad \\ \quad \end{pmatrix}$ [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.

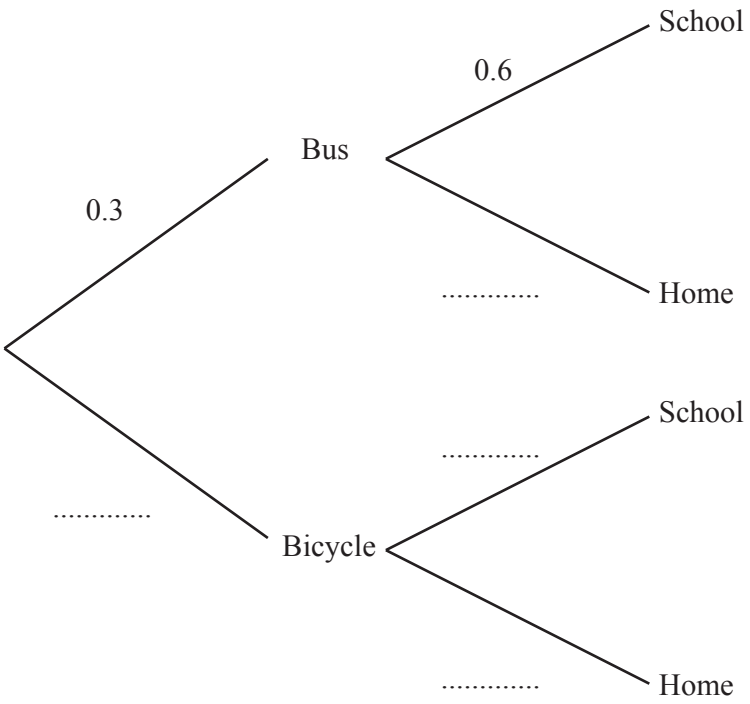
..... [3]

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

$p =$ ..... [3]

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.

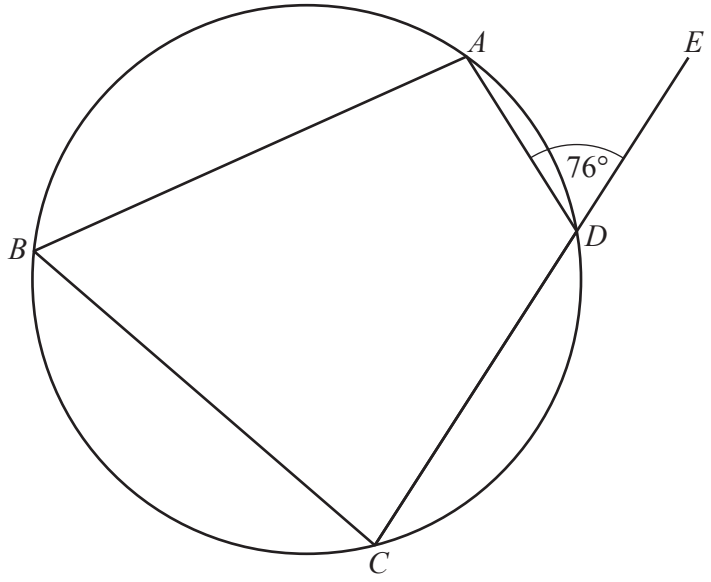
..... [2]

8 Expand and simplify.

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

..... [2]

9 (a)



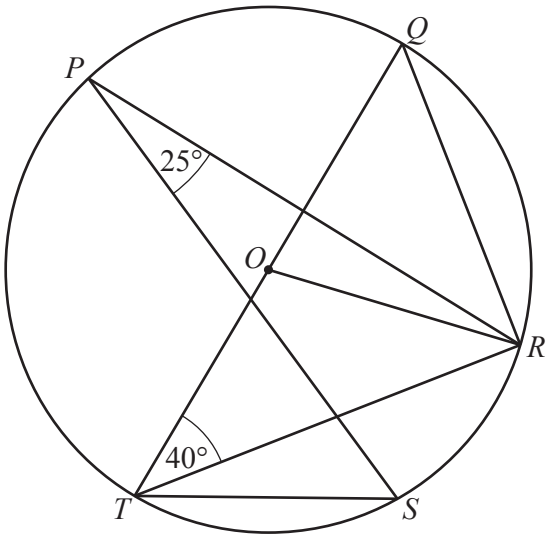
NOT TO SCALE

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

Find angle ABC .

Angle ABC = ... [1]

(b)



NOT TO SCALE

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

(i) Find angle STR.

Angle STR = ... [1]

(ii) Find angle QOR.

Angle QOR = ... [1]

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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 nth term of this sequence.

35, 29, 19, 5, …

next term = ...

nth 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]

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