Cambridge IGCSE

Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

6177834697

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/22**

Paper 2 (Extended) **October/November 2019**

45 minutes

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
Do not use staples, paper clips, glue or correction fluid.
You may use an HB pencil for any diagrams or graphs.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** the questions.
CALCULATORS MUST NOT BE USED IN THIS PAPER.
All answers should be given in their simplest form.
You must show all the relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 40.

This document consists of **8** printed pages.

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[Turn over

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. $\quad A = \pi rl$

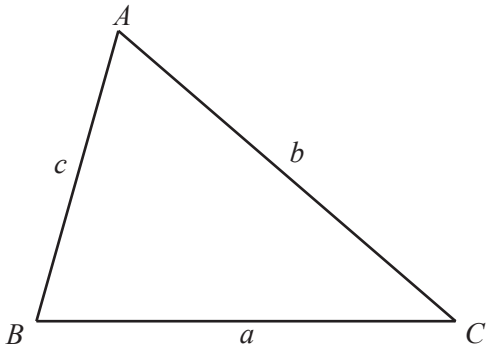
Curved surface area, A, of sphere of radius r. $\quad A = 4\pi r^2$

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 8 27 49 51 53 55 99

From this list write down the square number.

..... [1]

2 Change 3.2 metres into millimetres.

.....mm [1]

3 Write each number in standard form.

(a) 28 010

..... [1]

(b) 0.100 209

..... [1]

4 Each interior angle of a regular polygon is 170°.

Find the number of sides of this polygon.

..... [3]

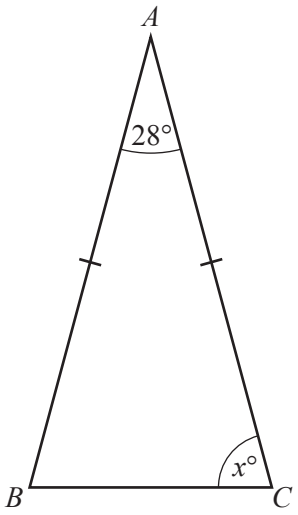
5 Xian walks 8 km in $1\frac{1}{2}$ hours.

She then runs 10 km in 45 minutes.

Find her average speed in km/h for the whole journey.

..... km/h [3]

6



NOT TO SCALE

$AB = AC$

Find the value of x.

$x =$ ..... [2]

7 The lengths of the sides of a right-angled triangle are 6 cm, 8 cm and 10 cm.

Find the tangent of the smallest angle.

..... [1]

8 Magda buys 6 apples and 4 oranges for a total cost of $4.18 .
Oranges cost $0.52 each.

Find the cost of one apple.

$ ..... [3]

9 The mean of five numbers is 16.
When two extra numbers are included the mean of the seven numbers is 20.

Find the mean of the two extra numbers.

..... [2]

10 The point A has co-ordinates $(1, -5)$ and the point B has co-ordinates $(9, 1)$.

Find the equation of the perpendicular bisector of AB in the form $y = mx + c$.

$y =$ ..... [5]

11 Factorise completely.

$$8x^2 - 18$$

..... [2]

12 **(a)** Simplify.

$$\sqrt{300} - \sqrt{27}$$

..... [2]

(b) Rationalise the denominator and simplify your answer.

$$\frac{14}{3 - \sqrt{2}}$$

..... [3]

13 Solve the equation.

$$3\log x - \log 4 = 4\log 2$$

$x =$ ..... [3]

Questions 14 and 15 are printed on the next page.

14 Rearrange the formula to make x the subject.

$$y = 1 - \frac{x}{3x - 5}$$

$x =$ ..... [4]

15 An archer fires three arrows at a target.

The probability that the archer hits the target with each arrow is $\frac{3}{5}$.

Find the probability that the archer hits the target exactly twice.

..... [3]

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