



# Cambridge IGCSE™

CANDIDATE  
NAME

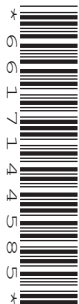
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CENTRE  
NUMBER

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**CAMBRIDGE INTERNATIONAL MATHEMATICS**

**0607/23**

Paper 2 (Extended)

**May/June 2023**

**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  $l$ .  $A = \pi rl$

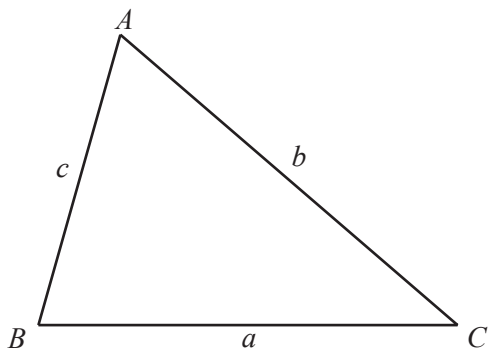
Curved surface area,  $A$ , of sphere of radius  $r$ .  $A = 4\pi r^2$

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



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

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

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

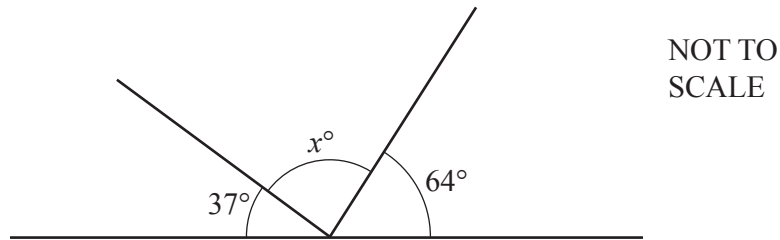
Answer **all** the questions.

- 1                    29    31    41    49    51    59

From this list, write down **all** the numbers that are prime numbers.

..... [2]

2



Find the value of  $x$ .

$x =$  ..... [1]

3 Work out.

(a)  $0.04 \times 0.06$

..... [1]

(b)  $\frac{0.02}{0.8}$

..... [1]

4 A bag contains 3 blue balls and 7 green balls.  
One ball is chosen at random.

Find the probability the ball chosen is

(a) white

..... [1]

(b) not blue.

..... [1]

5 Change 12 millimetres into metres.

..... m [1]

6 Expand.

$$3x(2x^4 - 5)$$

..... [2]

7 (a) Write 0.003 08 in standard form.

..... [1]

(b) Work out  $(7 \times 10^6) \times (3 \times 10^{-8})$ .

Give your answer in standard form.

..... [2]

8 Find the next term and the  $n$ th term for this sequence.

1, 7, 17, 31, 49, ...

next term .....

$n$ th term ..... [3]

- 9 The total cost of 5 pens and 7 pencils is \$6.75 .  
Each pencil costs \$0.45 .

Find the cost of one pen.

\$ ..... [3]

- 10 Write 48 as a product of its prime factors.

..... [2]

- 11 (a) The range of ten numbers is 30.  
The range of eight other numbers is 13.

Find the smallest possible value of the range of all eighteen numbers.

..... [1]

- (b) The mean of twelve numbers is 25.  
The mean of ten of these numbers is 16.

Find the mean of the other two numbers.

..... [2]

12 Factorise fully.

(a)  $(3y)^2 - 16$

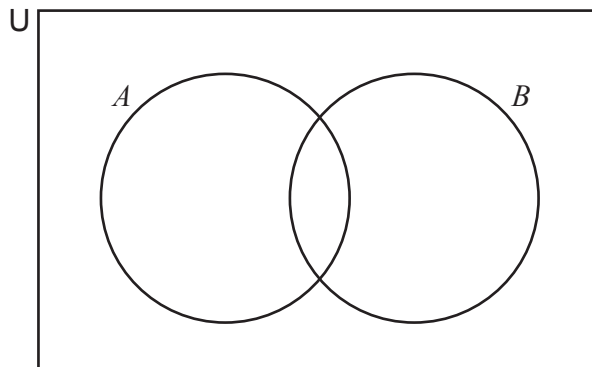
..... [1]

(b)  $15ab - 1 - 3a + 5b$

..... [2]

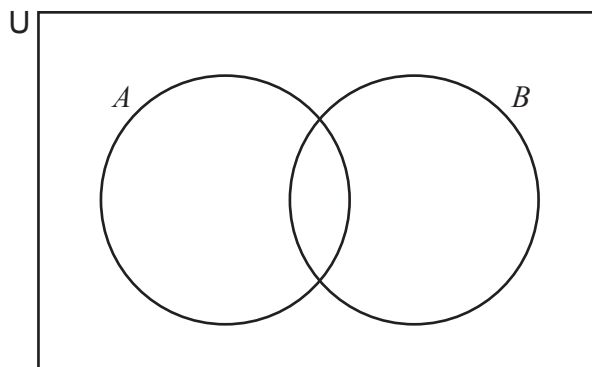
13 Shade the given region on the Venn diagram.

(a)  $A' \cap B'$



[1]

(b)  $(A \cup B)'$



[1]

14 An archer shoots three arrows at a target.

The probability that she hits the target with each arrow is  $\frac{7}{10}$ .

Find the probability she hits the target exactly twice.

..... [3]

15 Rearrange the equation to make  $x$  the subject.

$$A + 4y = A(2 - 3x)$$

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

**Question 16 is printed on the next page.**

- 16 The point  $A$  has coordinates  $(2, 3)$  and the point  $B$  has coordinates  $(6, 5)$ .  
The point  $C$  lies on the line  $AB$ .  
The point  $D$  has coordinates  $(2, 5.5)$ .  
 $CD$  is perpendicular to  $AB$ .

Find the coordinates of  $C$ .

( ..... , ..... ) [5]

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