Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

6617144585

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.

© UCLES 2023

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. $\quad A = \pi rl$

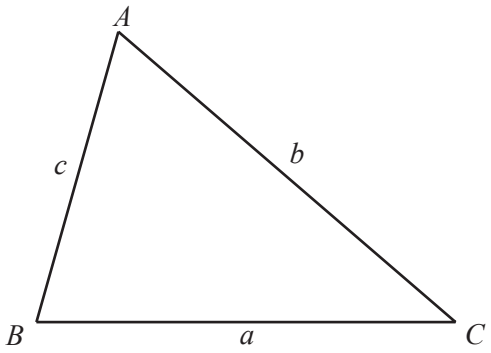
Curved surface area, A, of sphere of radius r. $\quad A = 4\pi r^2$

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



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

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

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

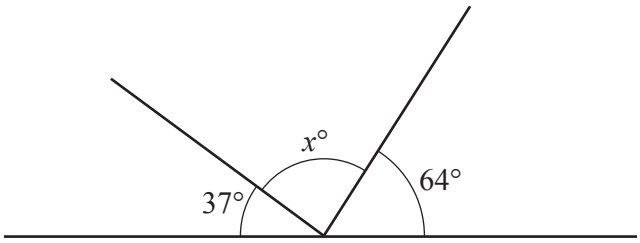
Answer **all** the questions.

1 29 31 41 49 51 59

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

..... [2]

2



NOT TO SCALE

Find the value of x.

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

3 Work out.

(a) 0.04×0.06

..... [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]

© UCLES 2023

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]

© UCLES 2023

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]

© UCLES 2023

12 Factorise fully.

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

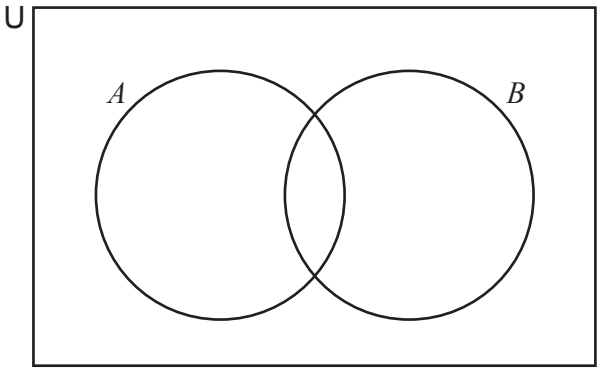
..... [1]

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

..... [2]

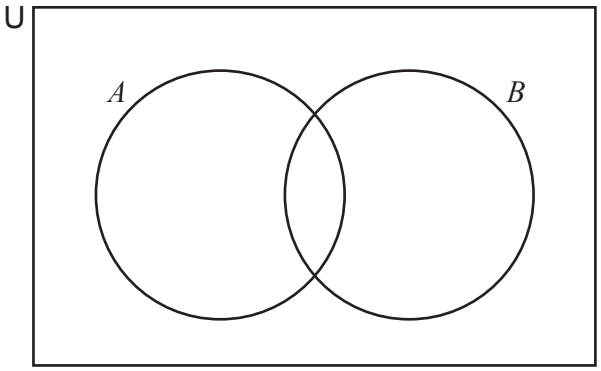
13 Shade the given region on the Venn diagram.

(a) $A' \cap B'$



[1]

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



[1]

© UCLES 2023

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]

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.

© UCLES 2023