Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

5312534539

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

Paper 1 (Core) **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

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle, radius r.	$A = \pi r^2$
Circumference, C, of circle, radius r.	$C = 2\pi r$
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 prism, cross-sectional area A, length l.	$V = Al$
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.	$V = \frac{4}{3}\pi r^3$

Answer **all** the questions.

1 Write the number seven hundred thousand and fourteen in figures.

..... [1]

2 Write 7.642 correct to the nearest integer.

..... [1]

3 Change 3 kilograms into grams.

..... g [1]

4 One pencil costs 30 cents.
Ahmet has $5.
Ahmet buys as many of these pencils as he can.

Work out the number of pencils Ahmet buys.

..... [2]

5 Use one of the symbols $<$, $=$ or $>$ to make the following statement correct.

$0 + 3$ ..... $7 - 3$ [1]

6 Hut X is due south of hut Y.

Write down the three-figure bearing of hut X from hut Y.

..... [1]

7

rectangle	square	rhombus	parallelogram	kite

Complete each statement with a word from the list.

(a) A ..... has 4 lines of symmetry. [1]

(b) A ..... has no lines of symmetry. [1]

8 Write these numbers in order of size, starting with the smallest.

$$32\% \qquad 0.4 \qquad \frac{3}{10} \qquad 0.22$$

..... , ... , ... , ... [2]

smallest

9 Simplify.

$$7a + 3 - 6a - 1$$

..... [2]

10 P is the point $(-5, -2)$ and Q is the point $(8, -2)$.

Find the length of PQ.

..... [1]

11 A horse travels 10 km in 2 hours.

Work out the average speed of the horse in kilometres per hour.

..... km/h [1]

12 A cube is taken at random from a box containing 3 red cubes and 2 blue cubes.

Find the probability of taking a red cube.

..... [1]

13 This is a train timetable.

Station	Train					
A	06 40	07 05	07 40	08 05	08 40	10 05
B		07 16		08 16	08 51	
C	07 10	07 48	08 10	08 48		10 35
D	07 19	07 57		08 57	09 27	10 44
E	07 37		08 32	09 15		11 02

(a) Javid must arrive at station E no later than 11 00.

Write down the time of the latest train he can catch from station A.

..... [1]

(b) Jacinta catches the 08 51 train from station B.

Work out how many minutes her journey takes from station B to station D.

..... min [1]

14 Simplify $\frac{2}{3} \times \frac{a}{b}$.

..... [1]

15 \$600 is invested at a rate of 1% per year simple interest.

Work out the value of the investment at the end of one year.

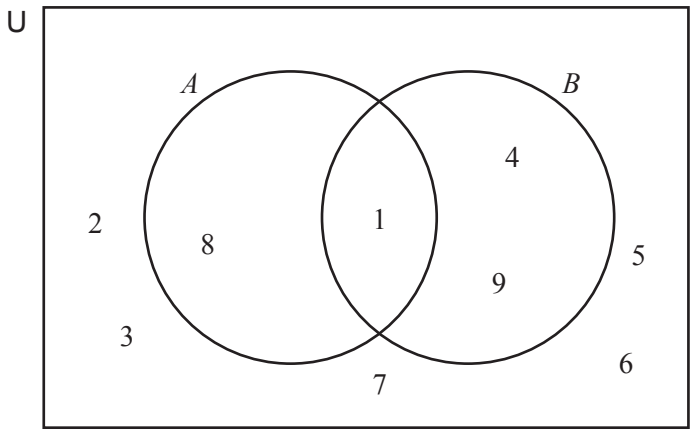
\$ ..... [2]

16 A circle has a diameter of 6 cm.

Find the area of the circle.
Give your answer in terms of π.

..... cm^2 [2]

17



(a) Write down the elements of set B.

..... [1]

(b) Write down $n(\cup)$.

..... [1]

18 The number of goals that a team scored in each of its 48 matches is recorded.
The table shows this information.

Number of goals scored	0	1	2
Number of matches	21	16	11

Find the relative frequency of scoring 1 goal.
Give your answer as a fraction in its simplest form.

..... [2]

19 $f(x) = 4(x-3)$

Find the value of x when $f(x) = 48$.

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

20 Find the lowest common multiple (LCM) of 18 and 24.

..... [2]

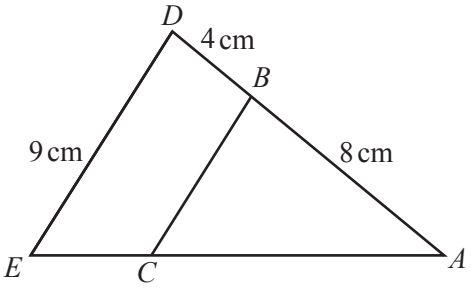
21 Solve the simultaneous equations.

$$3g - h = 13$$
$$9g - 5h = 35$$

$g =$ .....

$h =$ ..... [3]

22



NOT TO SCALE

Triangles ABC and ADE are similar.
$AB = 8$ cm, $BD = 4$ cm and $DE = 9$ cm.

(a) Find the scale factor of the enlargement of triangle ADE from triangle ABC.

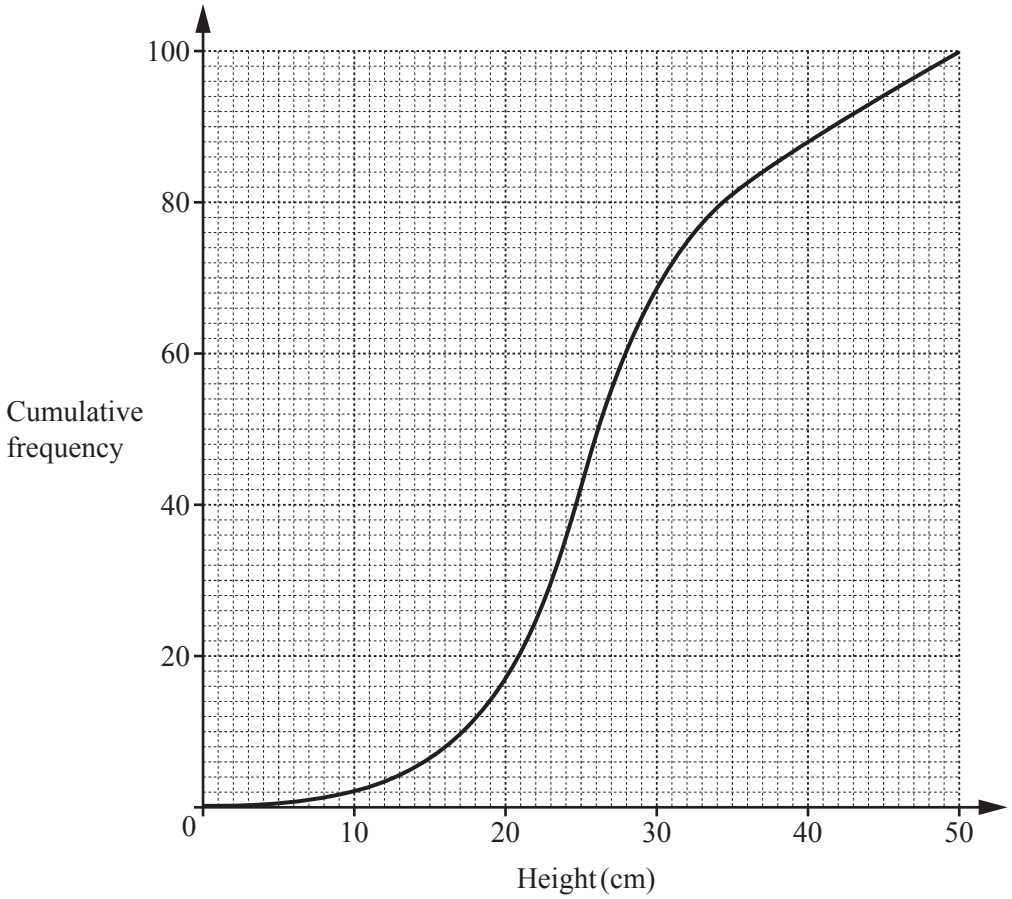
..... [1]

(b) Work out the length of BC.

..... cm [2]

Question 23 is printed on the next page.

23 The heights of 100 sunflower plants are measured.
The results are shown on the cumulative frequency curve.



(a) Find how many sunflower plants have a height less than 35 cm.

..... [1]

(b) Use the curve to find the interquartile range.

..... cm [2]