Cambridge Assessment International Education

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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.

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

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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]

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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]

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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]

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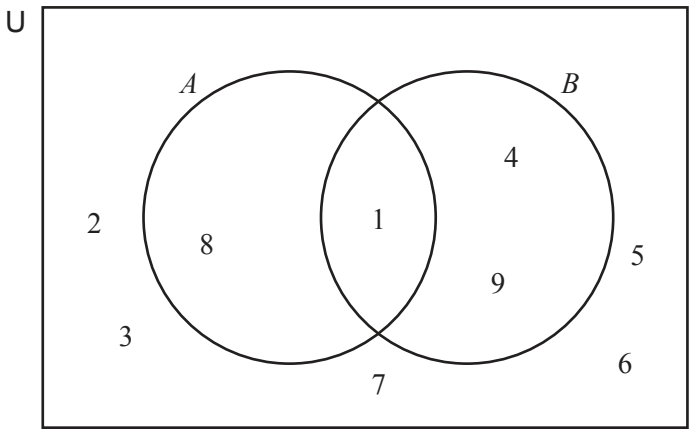
17



(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]

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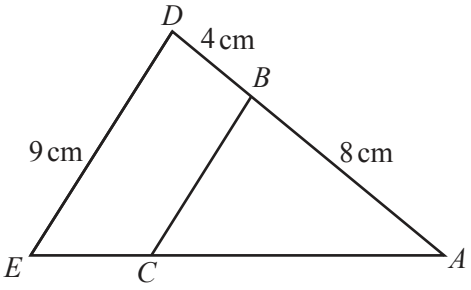
21 Solve the simultaneous equations.

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

$g =$ .....

$h =$ ..... [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.

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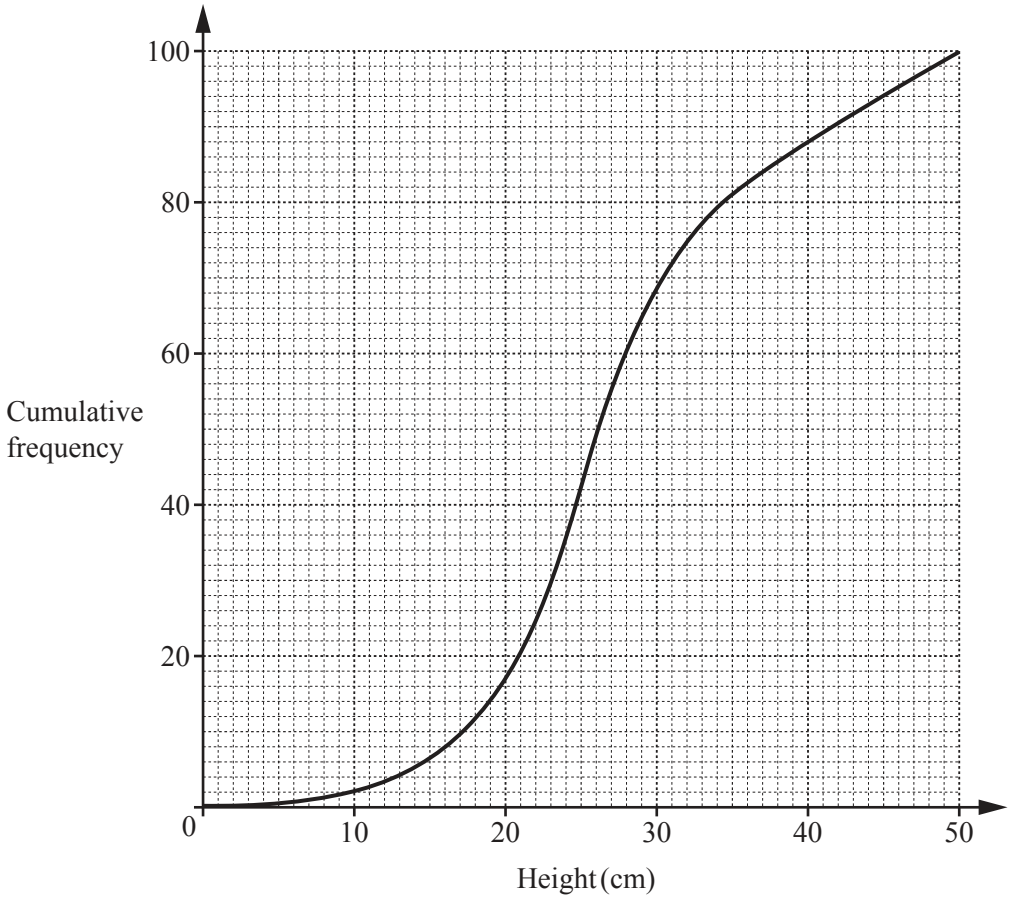
23 The heights of 100 sunflower plants are measured.
The results are shown on the cumulative frequency curve.



(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]

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