Cambridge Assessment International Education

Cambridge IGCSE™

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5944330988

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 (Core) **February/March 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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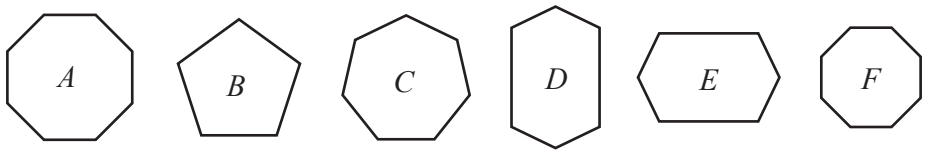
Formula List

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 The diagram shows 6 polygons.



(a) Write down the mathematical name for polygon *A*.

..... [1]

(b) Two of the polygons are congruent.

Write down the letters of these two polygons.

..... and ..... [1]

2 Salmon costs \$14.10 per kilogram.
Mia buys $1\frac{1}{2}$ kg of salmon.

Work out how much Mia pays.

\$ ..... [2]

3 Paul uses the following formula to work out the pressure, N/m^2, in a container.

$$\text{Pressure} = \text{Force (N)} \div \text{Area } (m^2)$$

Work out the pressure in a container when the force is 84 N and the area is $4\,m^2$.

..... N/m^2 [2]

4 Write $\frac{12}{21}$ in its simplest form.

..... [1]

5 A journey starts at 08 50 and finishes at 11 30.

Work out how many minutes the journey takes.

..... min [1]

6 Complete the statement using one of $<$, $=$ or $>$.

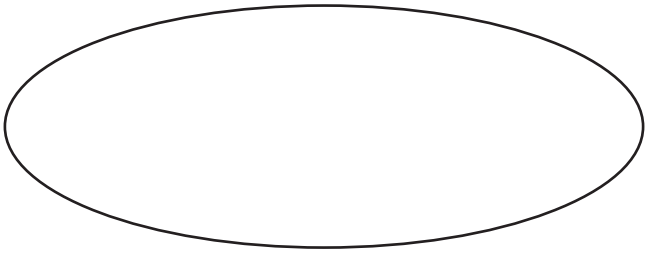
-5 2

[1]

7 Work out the perimeter of a rectangle with length 11 cm and width 9 cm.

..... cm [1]

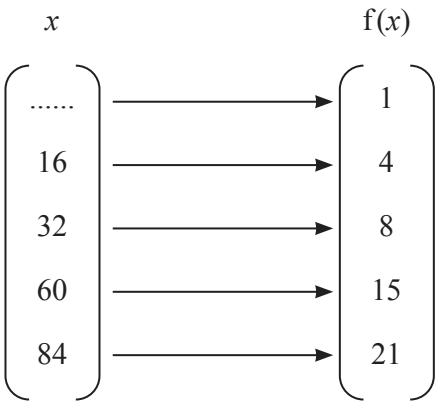
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Complete the statement.

This shape has rotational symmetry of order ..... [1]

9 Complete the mapping diagram.



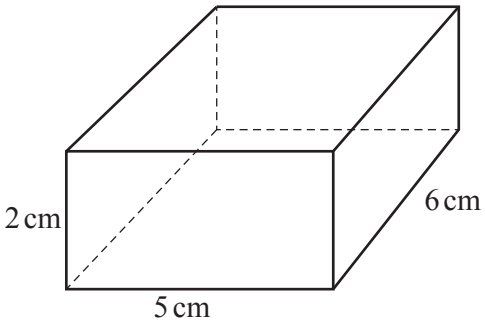
[1]

10 m^2 cm^3 cm^2 m^3

From the list, write down the best unit for the floor area of a classroom.

..... [1]

11



NOT TO SCALE

Work out the surface area of the cuboid.

..... cm^2 [3]

12 Work out.

$-3-4\times7$

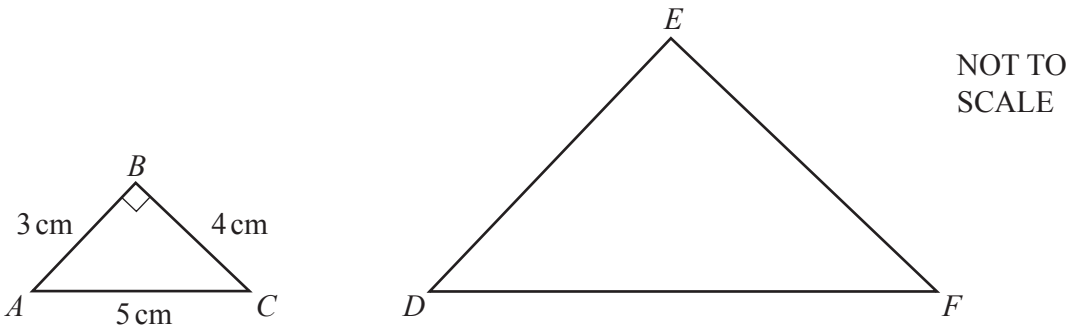
..... [1]

13 $Q = \{q \mid \text{square number where } 1 < q \leqslant 20\}$

Write down the elements of Q.

..... [2]

14



Triangle *ABC* is enlarged by a scale factor of 5 to give triangle *DEF*.

(a) Work out the length of *DF*.

DF = ... cm [1]

(b) Write down the size of angle *DEF*.

Angle *DEF* = ... [1]

15 Aisha and Rosie share some sweets in the ratio 5 : 7.
Rosie gets 28 sweets.

Work out the total number of sweets Aisha and Rosie share.

..... [2]

16 Work out the size of one exterior angle of a regular 10-sided polygon.

..... [2]

17 The table shows how each of 1200 students travel to school.

Travel to school	Walk	Car	Bicycle	Bus
Number of students	200	150	180	670

Find the relative frequency of travelling to school by bicycle.
Give your answer as a fraction in its simplest form.

..... [2]

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18 Factorise.

$$4a^3 - 5a$$

..... [1]

19 Five numbers have a mean of 8.
Four of the numbers are 2, 7, 9 and 10.

Work out the fifth number.

..... [2]

20 Find the highest common factor (HCF) of 28 and 42.

..... [1]

21 The probability that Ahmed wears a blue shirt is $\frac{3}{5}$.
The probability that he wears red socks is $\frac{2}{3}$.

Work out the probability that Ahmed wears a blue shirt and does not wear red socks.

..... [2]

Questions 22, 23 and 24 are printed on the next page.

22 Change 30 metres per second into kilometres per hour.

..... km/h [2]

23 Work out $(3.7 \times 10^3) \times 2000$.

Write your answer in standard form.

..... [2]

24 There are x biscuits in a pack.

Adam eats 2 of the biscuits.
He divides the remaining biscuits between his 5 friends.
Each friend gets 3 biscuits.

Form an equation and solve it to find the value of x.

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

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