Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

8690008574

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 (Core) **February/March 2022**

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

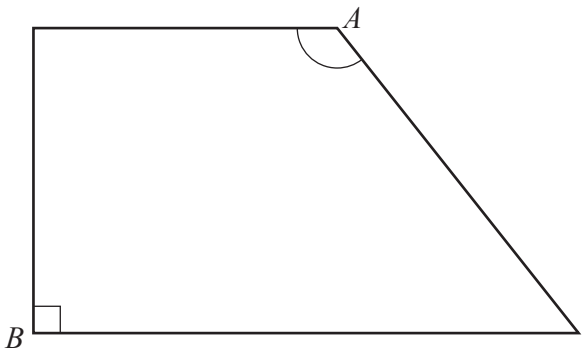
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Answer **all** the questions.

1 Write $\frac{1}{2}$ as a percentage.

..... % [1]

2



Write down the mathematical name for

(a) angle A,

..... [1]

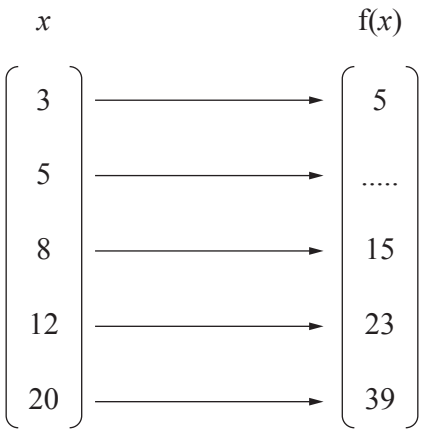
(b) angle B.

..... [1]

3 Write down the second triangle number.

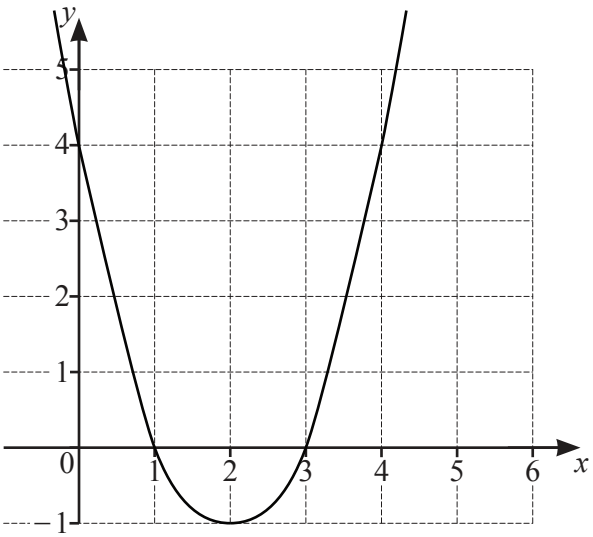
..... [1]

4 Complete the mapping diagram.



[1]

5



(a) Plot the point (3, 4). [1]

(b) Write down the coordinates of one of the points where the curve crosses the x-axis.

(..... , ...) [1]

6 Work out.

$2 \times (3 + 4)$

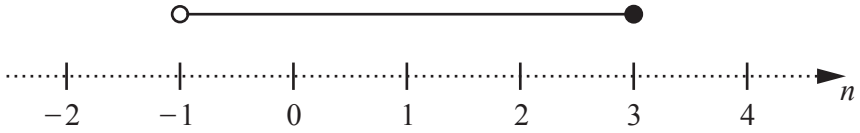
..... [1]

7 Work out.

$\sqrt[3]{8} + 4^2$

..... [2]

8



Complete the statement.

This number line shows the inequality $-1 < n$ ..... 3.

[1]

9 These are the scores of 10 students in a mathematics test.

29 17 9 11 11 24 9 31 11 19

(a) Find the mode.

..... [1]

(b) Work out the median.

..... [2]

10 Work out 20% of 45.

..... [1]

11 $A = \{x \mid x$ is a positive integer less than 10 and x is a multiple of $4\}$

List the elements of set A.

..... [1]

12 Sam and his brother share \$42 in the ratio 2 : 5.
Sam has the larger share.

Find the amount Sam has.

\$ ..... [2]

13 Sara pays $1 per day for her mobile phone.
In one week she can make 100 minutes of free calls.
All other calls are charged at 50 cents per minute.

Work out the **total** amount Sara pays in one week when she makes 120 minutes of calls.

$ ..... [3]

14 **(a)** Alys rolls a fair six-sided die.

Find the probability that Alys rolls a 2.

..... [1]

(b) Elora has a six-sided die.
She thinks that her die is biased.
She rolls it 100 times to test it.

(i) Complete the table.

Number on die	1	2	3	4	5	6
Frequency	5	15	18	16	16	
Relative frequency	0.05	0.15				

[2]

(ii) Write down the number Elora is most likely to get when she rolls her die.

..... [1]

15 Factorise completely.

$24xy + 8x$

..... [2]

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16 Simplify.

$x^2 \times x$

..... [1]

17 Write down the highest common factor (HCF) of 5 and 7.

..... [1]

18 A is the point (3, 8) and B is the point (5, -2).

Find the coordinates of the mid-point of AB.

(..... , ...) [2]

19 Write down the two rational numbers from this list.

$\frac{2}{3}$ $\sqrt{3}$ 2 π

..... [1]

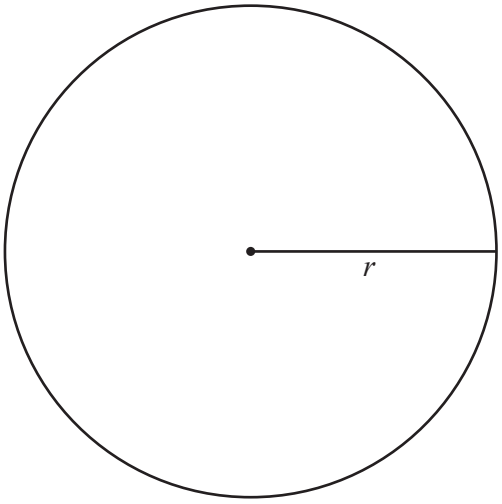
20 A bag contains 5 silver coins and 2 gold coins.
Gill takes a coin at random from the bag and then replaces it.
She does this a second time.

Find the probability that both coins are gold.

..... [2]

Questions 21, 22 and 23 are printed on the next page.

21



NOT TO SCALE

The area of the circle is $16\pi\,\text{cm}^2$.

Find the radius, r, of the circle.

..... cm [2]

22 In triangle ABC, $AB = AC = x\,\text{cm}$.
BC is 4 cm longer than AB.

Find an expression, in terms of x, for the perimeter of this triangle.
Give your answer in its simplest form.

..... [2]

23 Work out $(4 \times 10^{-3}) \times (3 \times 10^{-5})$.
Give your answer in standard form.

..... [2]

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