Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

6438180590

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 (Core) **May/June 2019**

45 minutes

Candidates answer on the Question Paper.

Additional Materials: Geometrical Instruments

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
Do not use staples, paper clips, glue or correction fluid.
You may use an HB pencil for any diagrams or graphs.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** the questions.
CALCULATORS MUST NOT BE USED IN THIS PAPER.
All answers should be given in their simplest form.
You must show all the relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 40.

This document consists of **11** printed pages and **1** blank page.

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

Answer **all** the questions.

1 Write 123.456 correct to the nearest 10.

..... [1]

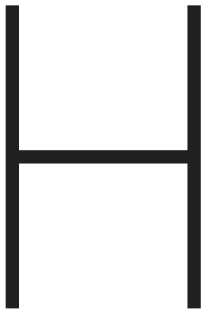
2 Work out how many days there are in 5 weeks.

..... days [1]

3 Find 10% of 300.

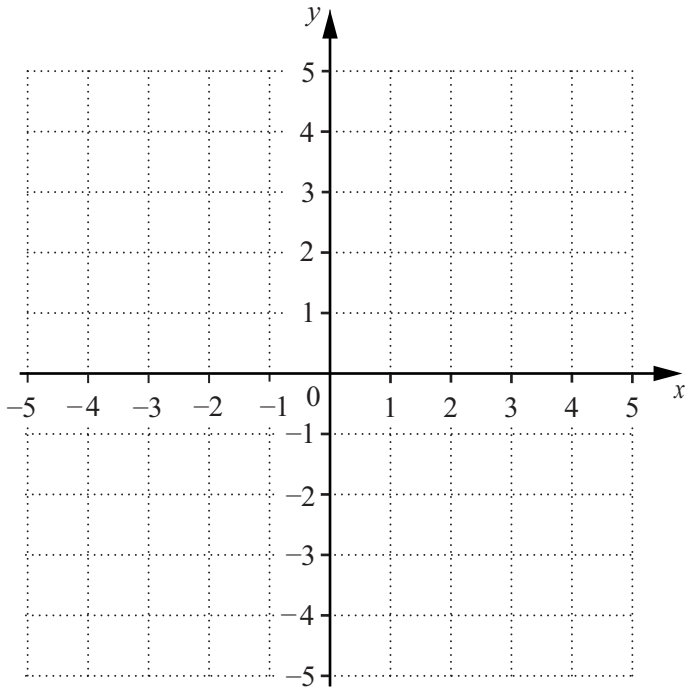
..... [1]

4 Draw all the lines of symmetry on the diagram.



[2]

5

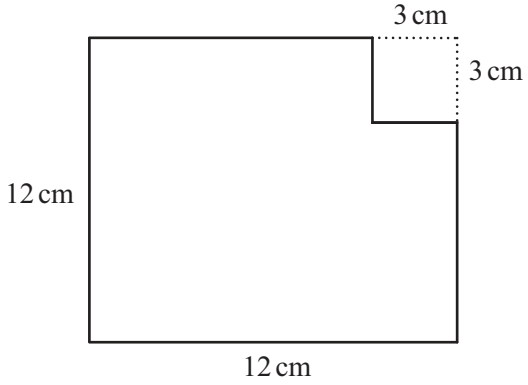


On the grid, plot and label the points A (– 4, 3) and B (5, –2). [2]

6 Complete the statement.

An angle that is more than 180° but is less than 360° is called ..... [1]

7



NOT TO SCALE

A square of side 3 cm is removed from the corner of a square of side 12 cm.

Find the area of the remaining shape.

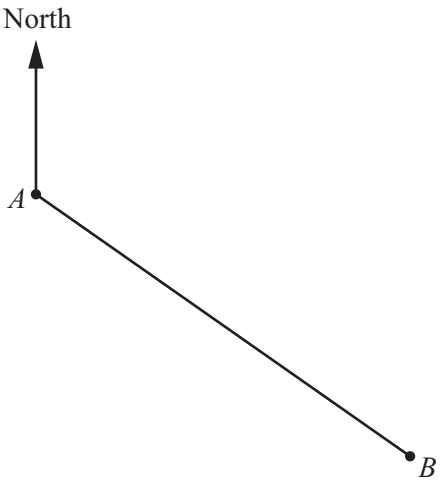
..... cm^2 [2]

8 $P = R + 5T$

Find the value of P when $R = 7$ and $T = 6$.

$P =$ ..... [2]

9

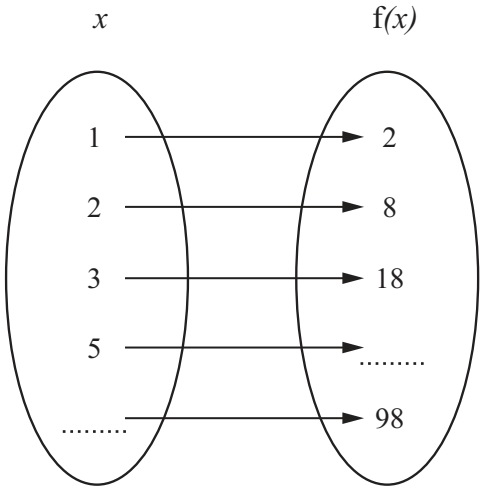


The diagram shows two towns, A and B, on a map.

Measure the bearing of B from A.

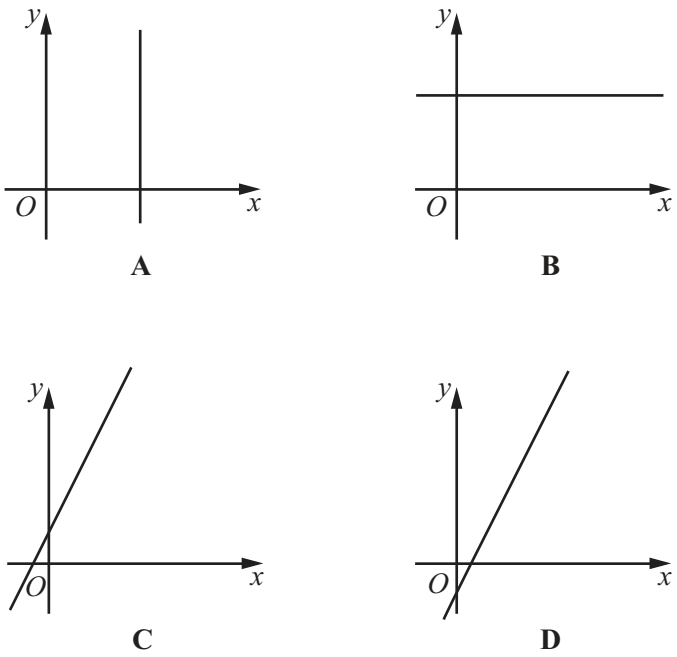
..... [1]

10 Complete the mapping diagram.



[2]

11



The diagrams **A**, **B**, **C** and **D** each show the graph of a straight line.

Write down the letter of the diagram which shows the line

(a) $x = 3$,

..... [1]

(b) $y = 2x - 1$.

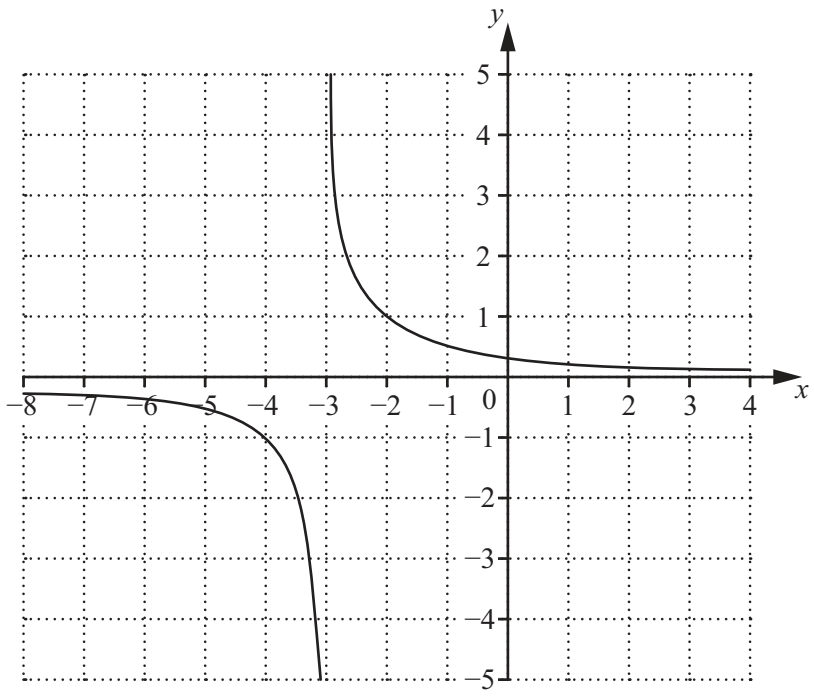
..... [1]

12 A circle has radius 3.5 cm.

Find the circumference of the circle.
Leave your answer in terms of π.

..... cm [2]

13



The diagram shows the graph of a function that has two asymptotes.
The equation of one asymptote is $y = 0$.

On the diagram, draw the other asymptote. [1]

14 Factorise $4p - 14$.

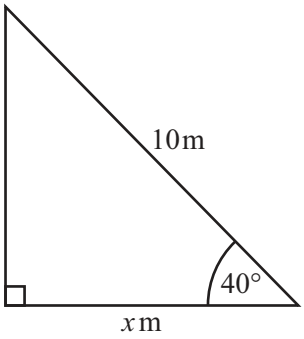
.....[1]

15 $f(x) = \frac{1}{3}x^2$

Find f(–6).

.....[1]

16



NOT TO SCALE

sin 40°	cos 40°	tan 40°
0.643	0.766	0.839

Use the information to work out the value of x.

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

17 The marks of 200 students in a mathematics test are recorded in the table below.

Mark (x)	$0 < x \leqslant 20$	$20 < x \leqslant 30$	$30 < x \leqslant 40$	$40 < x \leqslant 50$	$50 < x \leqslant 60$	$60 < x \leqslant 80$	$80 < x \leqslant 100$
Frequency	15	21	35	40	36	28	25

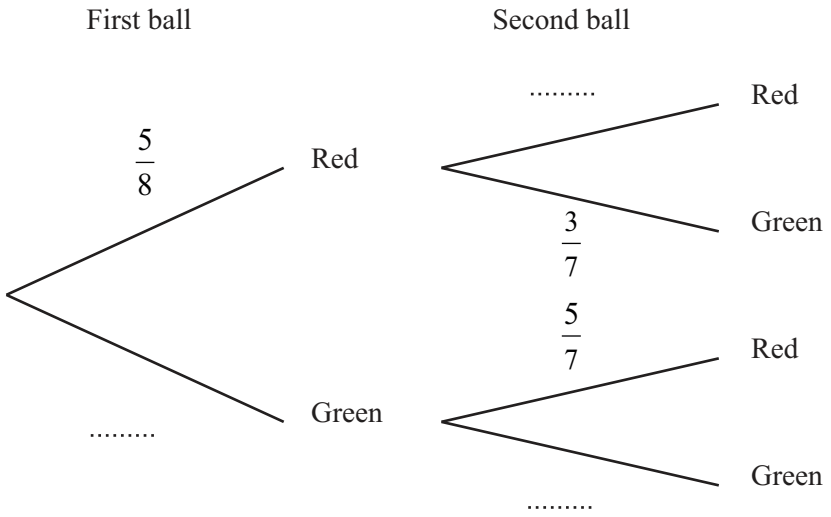
Complete the following cumulative frequency table.

Mark (x)	$x \leqslant 20$	$x \leqslant 30$	$x \leqslant 40$	$x \leqslant 50$	$x \leqslant 60$	$x \leqslant 80$	$x \leqslant 100$
Cumulative frequency							200

[2]

18 A bag contains 5 red balls and 3 green balls.
Two balls are chosen at random.

Complete the diagram.



[2]

19 Solve the simultaneous equations.

$$5x + 2y = 1$$
$$2x + 3y = 7$$

$x =$ .....

$y =$ ..... [4]

20 The interior angle of a regular polygon is 160°.

Find the number of sides of the polygon.

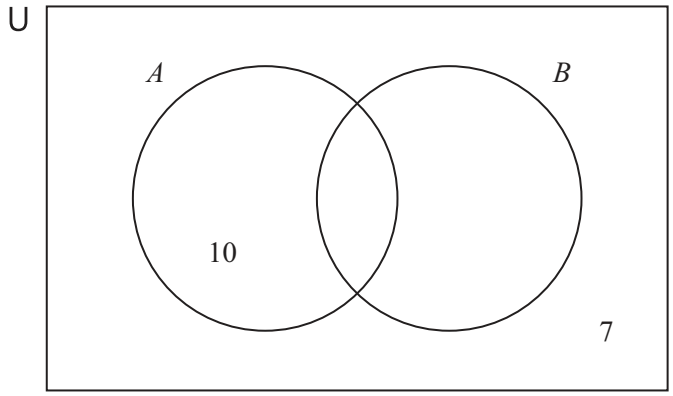
..... [3]

21 $\mathsf{U} = \{x \mid 3 \leqslant x \leqslant 10$, where x is an integer$\}$
$A = \{x \mid x$ is a multiple of 3 or 5$\}$
$B = \{x \mid 3x + 2 < 20\}$

(a) List the members of set B.

{ ..... } [2]

(b) Complete the Venn diagram.



[2]

(c) List the members of $A \cap B$.

{ ..... } [1]

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