Cambridge Assessment International Education
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

0353646075

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

Paper 1 (Core) **October/November 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.	$V = \frac{4}{3}\pi r^3$

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Answer **all** the questions.

1 Write down the square root of 36.

..... [1]

2 9 11 15 22 27 33

From the list of numbers write down

(a) the triangle number, ... [1]

(b) the even number. ..... [1]

3 Work out $\frac{4}{7}$ of 42.

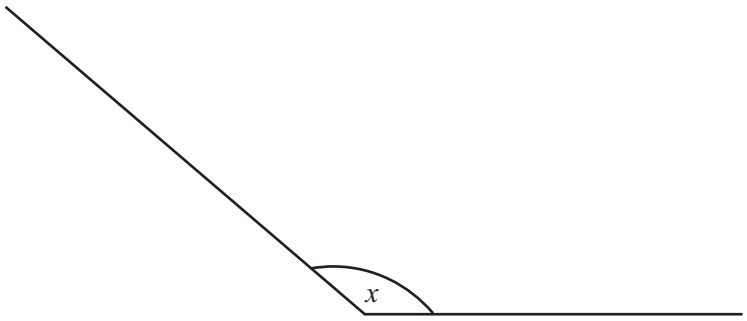
..... [1]

4 Insert one pair of brackets to make this statement correct.

$$3 - 2 \times 5 + 1 = 6$$

[1]

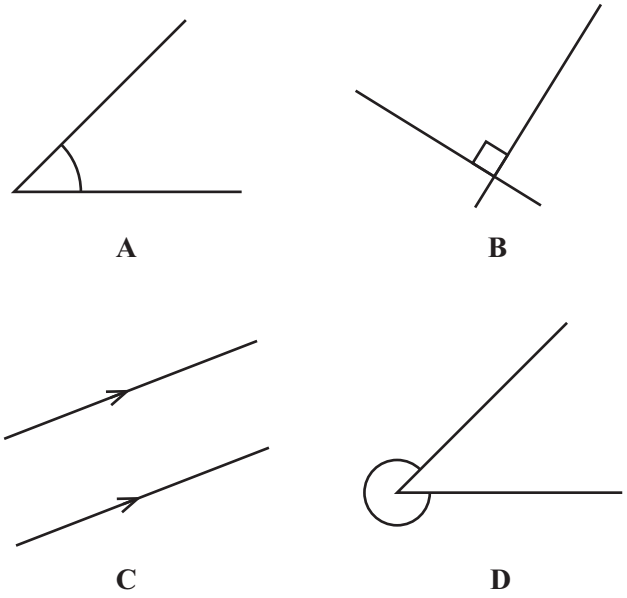
5



Measure angle x.

..... [1]

6



Complete the statements.

Diagram ..... shows perpendicular lines.

Diagram ..... shows a reflex angle.

[2]

7

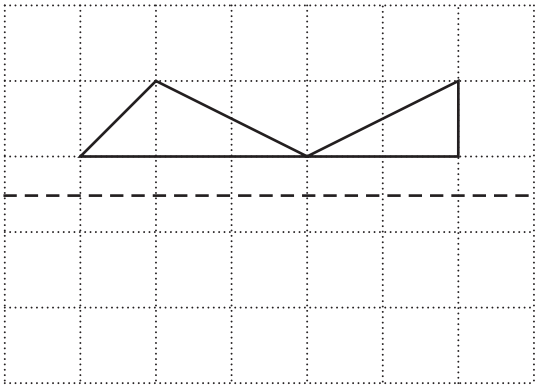


NOT TO SCALE

Find the perimeter of this rectangle.

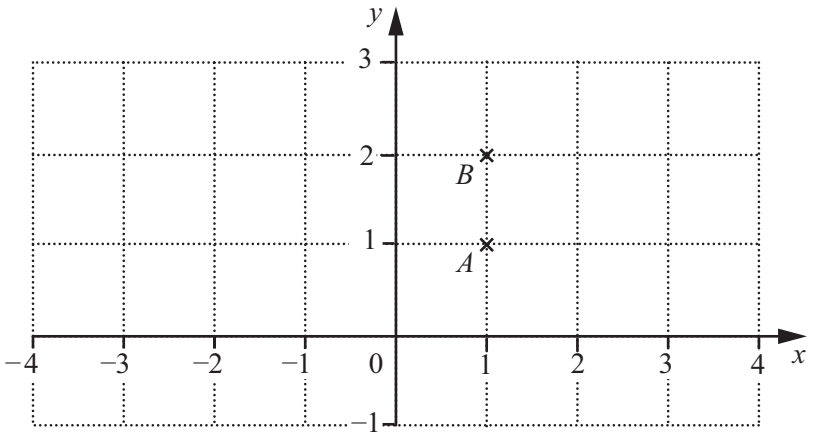
..... cm [1]

8 (a)



Complete the diagram above so that the dotted line is a line of symmetry. [1]

(b)



(i) On the grid, plot and label the point $C(3, 1)$.
Join the points to form triangle ABC. [1]

(ii) A shape is made from two congruent triangles ABC and ABD.
The shape has rotational symmetry of order 2 and no lines of symmetry.

On the grid draw triangle ABD. [1]

9 Look at this train timetable.

Bunley	0835	0900	0905	0935	1005	1035	1100	1135
Alton	0851			0951		1051		1151
Sidcot	0919	0944	0930	1019		1119	1144	1219
Bilham	0959			1059		1159		1259
Tim Spa	1022		1056		1130	1222	1236	1322
Trickway	1035		1111			1235	1249	1335
Wester		1125		1214			1330	1404

(a) A train goes from Bunley to Tim Spa without stopping.

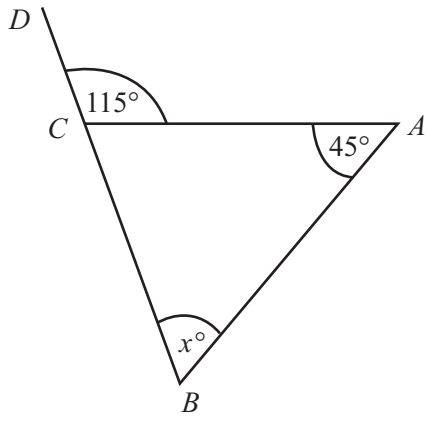
Write down the time this train leaves Bunley.

..... [1]

(b) Find which train takes the longest time to travel from Bunley to Wester.

..... [2]

10



NOT TO SCALE

The diagram shows a triangle *ABC* and a straight line *BD*.

Find the size of angle *x*.

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

11 Change 45 g into kilograms.

..... kg [1]

12 Simplify.

$4m + m - 3m$

..... [1]

13 $A = \{x \mid x \text{ is a factor of } 30 \text{ and } x \leqslant 10\}$

List the elements of set A.

{ ..... } [2]

14 These are the marks of 11 students in a mathematics test.

23 43 17 8 21 23 41 6 15 11 34

Draw an ordered stem and leaf diagram for these marks.

Key ..... | ..... represents .....

[3]

15 A cyclist travels 120 km in 6 hours.

Calculate his average speed.

..... km/h [1]

16 $4^3 = 64$

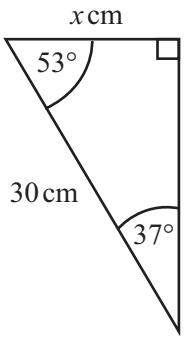
Find the value of 4^4.

..... [1]

17 Factorise $2x^2 + 5x$.

..... [1]

18



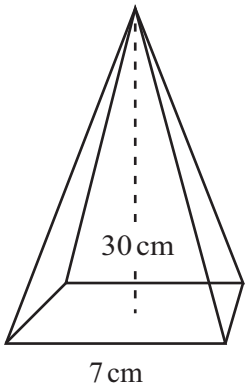
NOT TO SCALE

Put a ring around the correct expression for the distance x.

30 tan 37° 30 sin 53° 30 cos 53° 30 cos 37°

[1]

19



NOT TO SCALE

The diagram shows a pyramid with vertical height 30 cm.
The horizontal base of the pyramid is a square with side 7 cm.

Work out the volume of the pyramid.

..... cm^3 [3]

20 The bearing of Town X from Town Y is 045°.

Find the bearing of Town Y from Town X.

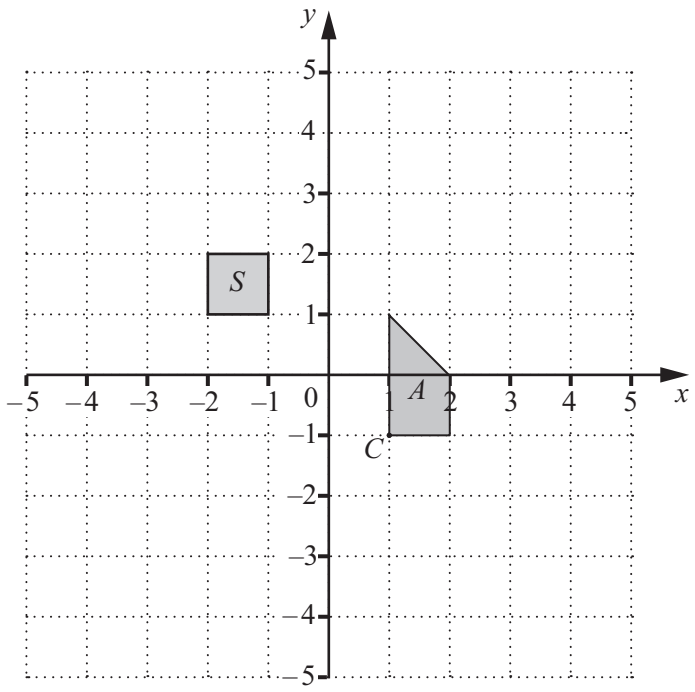
..... [2]

21 $f(x) = (x + 2)(x - 1)$

Work out f(5).

..... [1]

22



(a) On the grid, draw the image of shape A after an enlargement by scale factor 2 about centre C. [2]

(b) Shape S is the image of a shape **after** a translation by the vector $\begin{pmatrix} 2 \\ 3 \end{pmatrix}$.

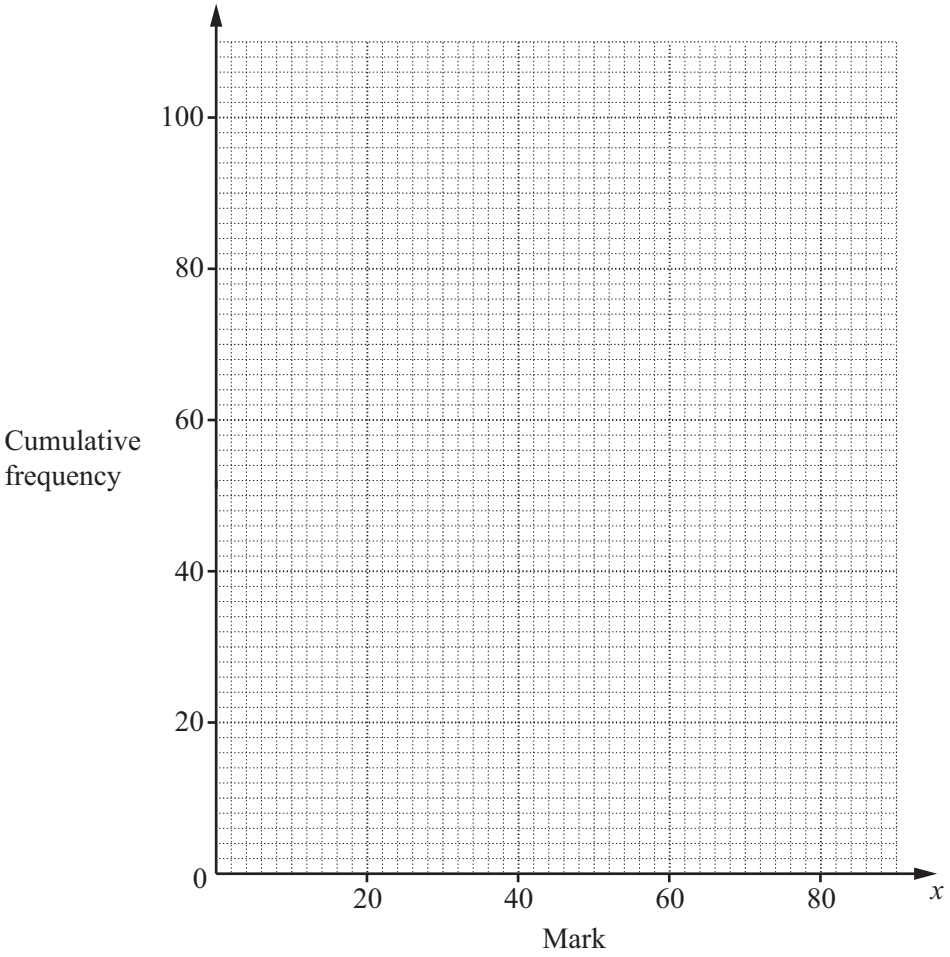
On the grid, draw the original shape. [2]

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23 The cumulative frequency table shows the marks, x, of 100 students in a science test.

Mark (x)	Cumulative Frequency
$0 < x \leqslant 20$	18
$0 < x \leqslant 40$	54
$0 < x \leqslant 60$	78
$0 < x \leqslant 80$	100

On the grid, draw a cumulative frequency curve to show this information.



[2]

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