Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

7320481266

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/11**

Paper 1 (Core) **May/June 2016**

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 **8** printed pages.

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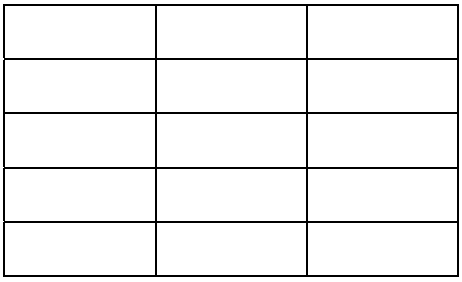
Formula List

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.

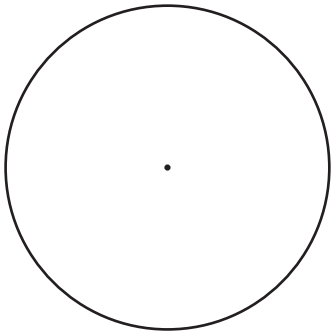
1



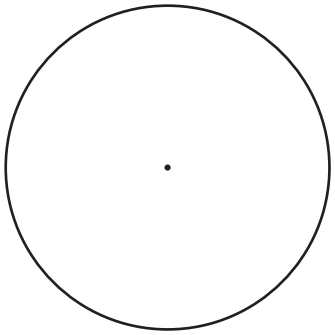
Shade $\frac{2}{3}$ of this shape.

[1]

2



Draw a sector inside this circle.



Draw a chord inside this circle. [2]

3 Write down all the factors of 21.

..... [2]

4 Work out.

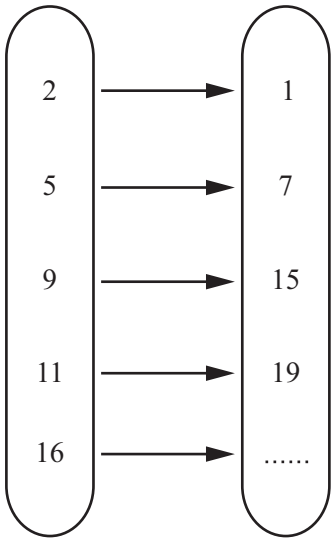
(a) $16 + 8 \times 4$

..... [1]

(b) $16 - 8 \div 4$

..... [1]

5 Complete the mapping diagram.



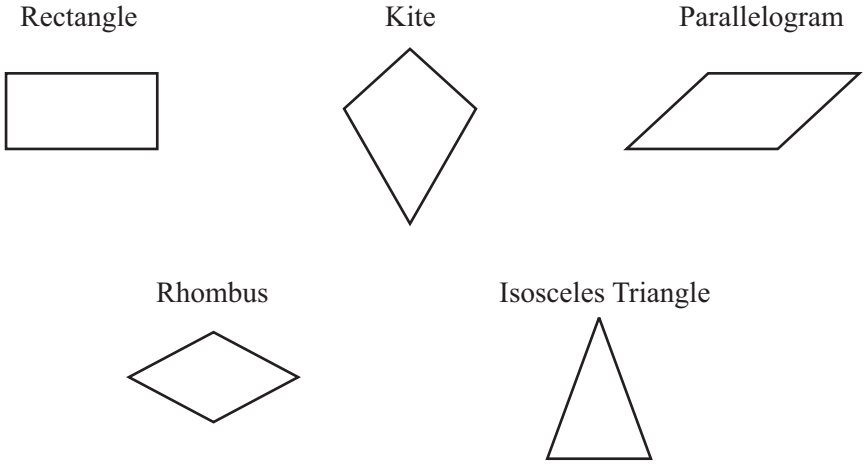
[1]

6 Jenny shares \$40 between her two sons in the ratio 3:1.

Work out how much each son receives.

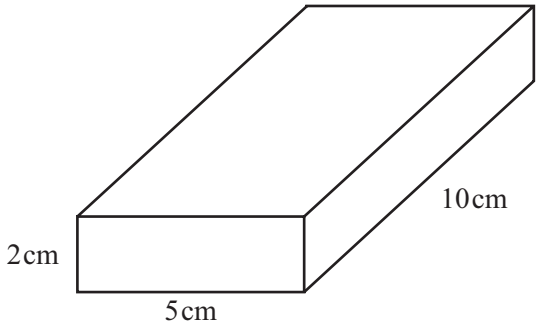
\$ ..... and \$ ..... [2]

7 Tick the shapes that have **both** line symmetry **and** rotational symmetry.



[2]

8 The diagram shows a child's solid building block in the shape of a cuboid 2 cm by 5 cm by 10 cm.



Find the total surface area of the cuboid.

..... cm^2 [3]

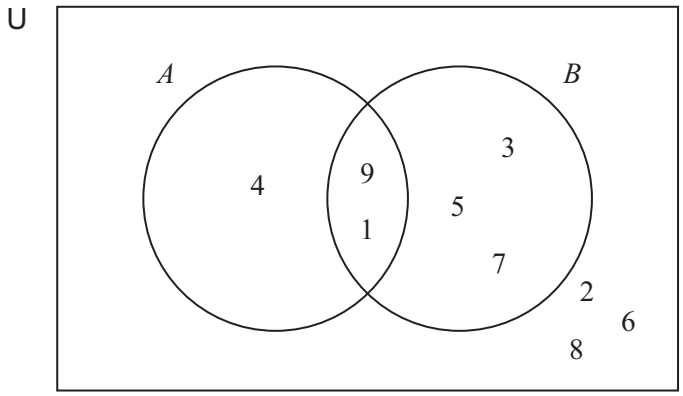
9 Write down the next two terms in the sequence.

18, 18, 16, 12, 6, ...

..... , ... [2]

10 The Venn diagram shows two sets A and B.

$\mathsf{U} = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$



(a) Complete the following.

(i) $A = \{$ ..... $\}$ [1]

(ii) $B' = \{$ ..... $\}$ [1]

(iii) $A \cap B = \{$ ..... $\}$ [1]

(b) What is the mathematical name given to the numbers in set A?

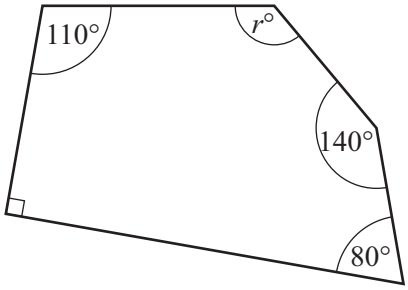
..... [1]

(c) Circle the statements which are correct for this Venn diagram.

$A \cup B = \mathsf{U}$ $7 \notin A$ $n(B) = 4$ $A \cap B' = \{4\}$

[2]

11



NOT TO SCALE

Find the value of r.

$r =$ ..... [3]

12 A car travels 100 metres in 8 seconds.

Find its speed in kilometres per hour.

..... km/h [2]

13 Describe the **single** transformation that maps $y = f(x)$ onto $y = f(x) + 3$.

.....

..... [2]

14 An archer hits the target with probability $\frac{7}{10}$.

He takes 50 shots at the target.

How many times does he expect to hit the target?

..... [1]

15 Write down all the integers that satisfy the following inequality.

$$-3 \leqslant x < 2$$

..... [2]

Questions 16 and 17 are printed on the next page.

16 **(a)** Factorise.

(i) $3x + 6$

..... [1]

(ii) $p^2 + pq$

..... [1]

(b) Expand the brackets and simplify.

$$x - 3(2x - 7)$$

..... [2]

17 Solve the following simultaneous equations.

$$2x + y = 8$$
$$3x + 2y = 12$$

$x =$ .....

$y =$ ..... [3]

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