Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER			

7793387036

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

Paper 1 (Core) **May/June 2017**

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 3 π 9 21 36 48

From the list of numbers write down

(a) a square number,

..... [1]

(b) the irrational number,

..... [1]

(c) the prime number,

..... [1]

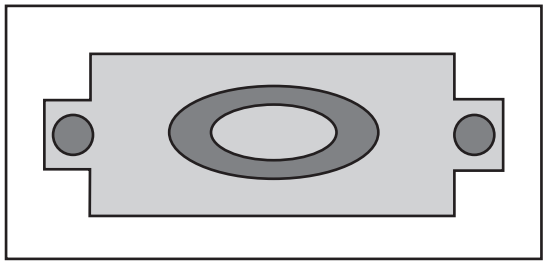
(d) a multiple of 9.

..... [1]

2 Write down two **different** fractions between $\frac{1}{4}$ and $\frac{1}{2}$.

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

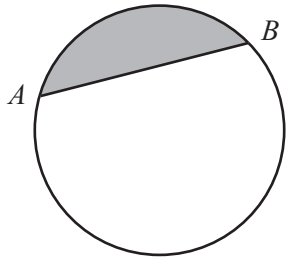
3



Use a number to complete the statement.

The diagram has ..... lines of symmetry. [1]

4



arc	chord	circumference	diameter	radius	sector	segment

From the list above select the mathematical name for

(a) the line AB, ... [1]

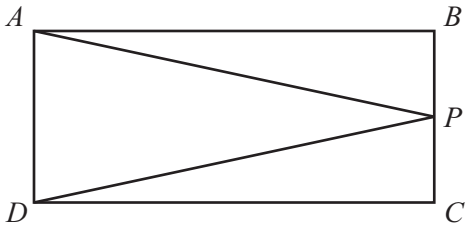
(b) the shaded area. ..... [1]

5 Draw an angle of 164° at A.



[1]

6



NOT TO SCALE

$ABCD$ is a rectangle.
P is the midpoint of BC.

(a) Write down the mathematical name of triangle APD.

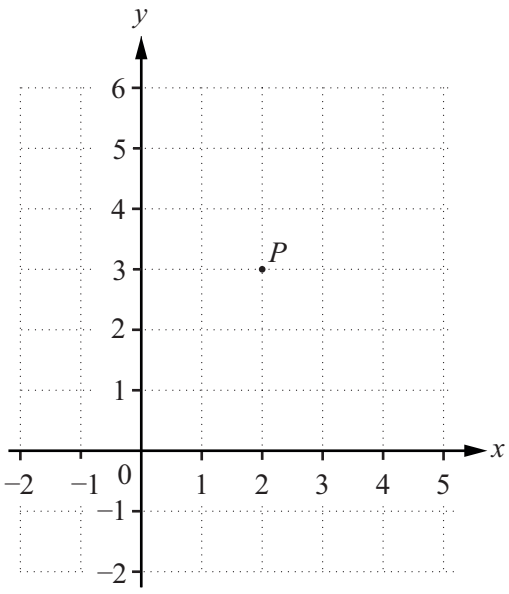
..... [1]

(b) Write down the mathematical name of quadrilateral $APCD$.

..... [1]

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7



(a) Write down the co-ordinates of point P.

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

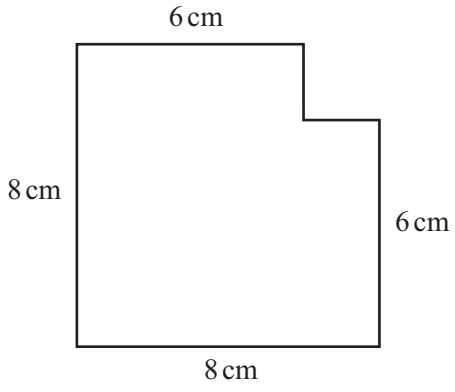
(b) Plot and label the point Q (5, 1). [1]

8 A circle has diameter 12 m.

Find the area, leaving your answer in terms of π.

..... m^2 [1]

9



NOT TO SCALE

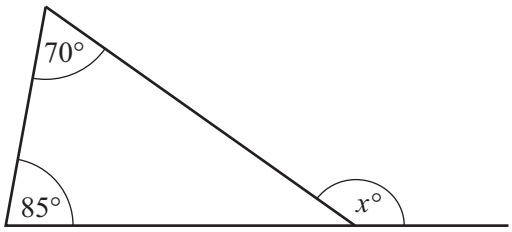
A square of side 2 cm is removed from the corner of a square of side 8 cm.

Find the area of the remaining shape.

..... cm^2 [2]

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10



NOT TO SCALE

Find the value of x.

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

11 Write 4.2×10^4 as an ordinary number.

..... [1]

12 Find the highest common factor (HCF) of 32 and 48.

..... [1]

13 The mass of a lorry is 3 800 000 g.

Write this mass in tonnes.

..... tonnes [1]

14 *A* $y = 3x - 2$

B $3 + y = 2x$

C $2y = 6x - 2$

D $3x - 2 + y = 0$

A, *B*, *C* and *D* are the equations of four straight lines.

From the list, find the two straight lines that are parallel.

..... and ..... [2]

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15 Expand the brackets and simplify.

$$3(4x - 1) - 2(x + 3)$$

..... [2]

16 $f(x) = 3x^2 + 1$

Find the values of x when $f(x) = 49$.

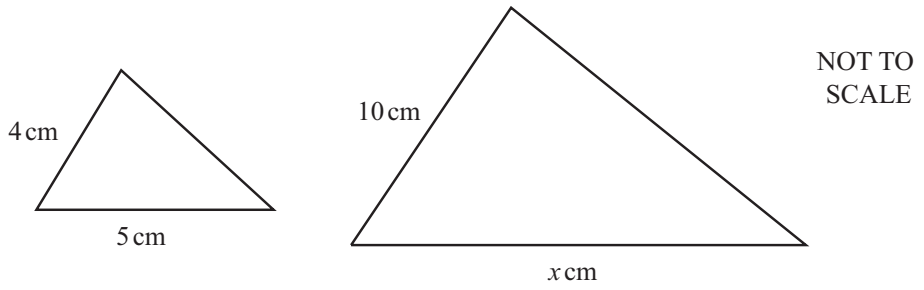
$x =$ ..... and $x =$ ..... [2]

17 Raoul invests \$500 for 4 years at a rate of 3% simple interest per year.

Find the total interest he receives at the end of the 4 years.

\$ ..... [2]

18



These two triangles are similar.

Find the value of x.

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

Questions 19, 20 and 21 are printed on the next page.

19 **(a)** Complete the statement using one of the symbols < , = or >.

-7 ..... -4

[1]

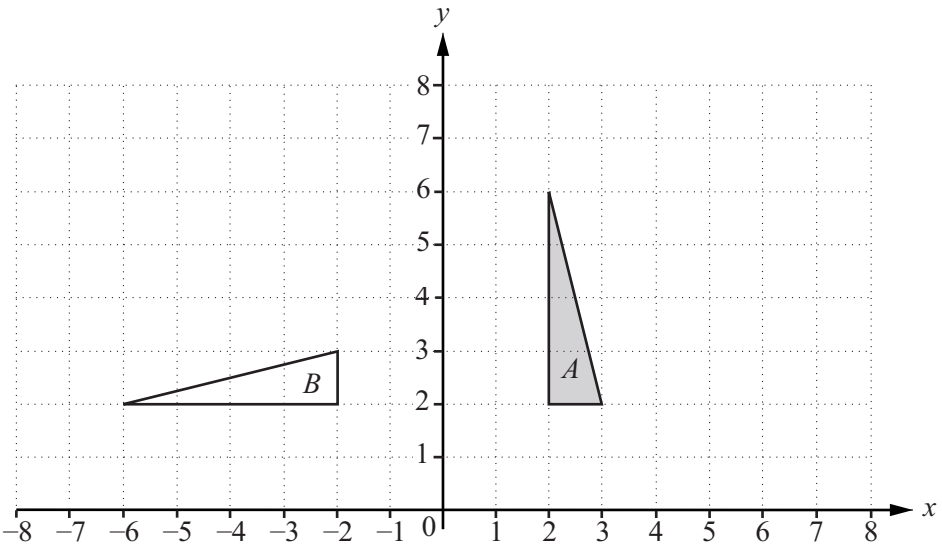
(b)



Write the information shown on the number line as an inequality.

..... [2]

20



Describe fully the **single** transformation that maps triangle *A* onto triangle *B*.

.....

..... [3]

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

..... [2]

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