Cambridge IGCSE

Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

4758786975

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

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 20 25 29 32 33 40 45

From this list of numbers, write down

(a) the multiple of 11,

..... [1]

(b) the prime number,

..... [1]

(c) the square number,

..... [1]

(d) the lowest common multiple (LCM) of 4 and 5.

..... [1]

2 Write $\frac{4}{5}$ as a decimal.

..... [1]

3 Write 30% as a fraction in its simplest form.

..... [2]

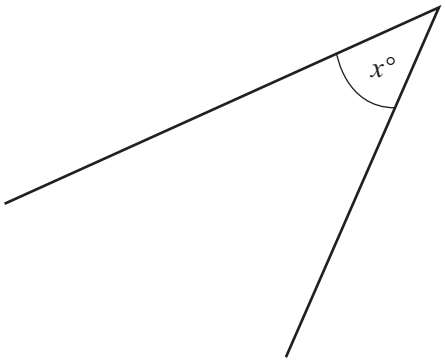
4 Share \$150 in the ratio 2 : 3.

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

5 Write down the mathematical name for an 8-sided shape.

..... [1]

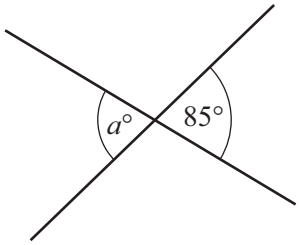
6



Measure the angle marked x in the diagram.

..... [1]

7 (a)



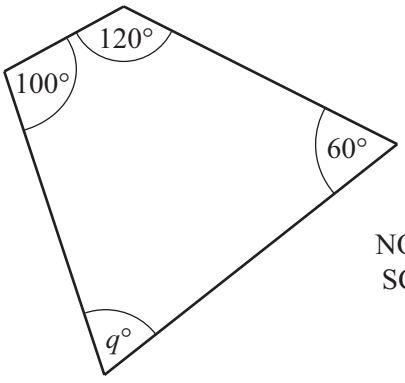
NOT TO SCALE

Write down the size of the angle marked a and give a reason for your answer.

a = ... because .....

..... [2]

(b)



NOT TO SCALE

Find the size of the angle marked q.

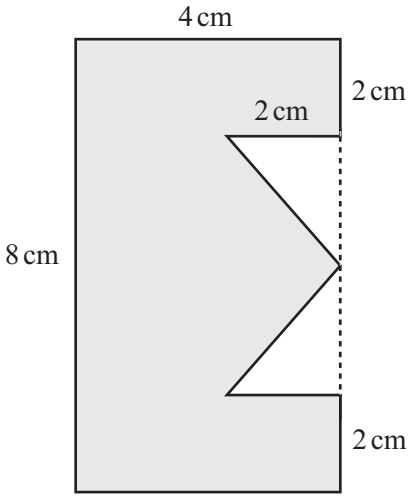
q = ... [2]

8 Give two examples of discrete data.

1. .....

2. ..... [2]

9 This sign is a company logo.



NOT TO SCALE

The diagram shows a rectangle with two identical right-angled triangles removed.
Work out the area of the shaded region.
Give the units of your answer.

.... [4]

10 The diameter of an atom is 0.000 000 03 metres.

Write this number in standard form.

..... [1]

11 Voroda invests \$200 at 3% per year **simple** interest.

Work out the total value of this investment at the end of 4 years.

\$ ..... [3]

12 **(a)** Factorise.

$4x + 10$

..... [1]

(b) Expand.

$4(9a - 3b)$

..... [1]

13 Simplify.

$$\frac{2x}{3} \times \frac{9x}{10}$$

..... [2]

14 The point A has co-ordinates (3, 2) and $\overrightarrow{AB} = \begin{pmatrix} 5 \\ -3 \end{pmatrix}$.

Find the co-ordinates of the point B.

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

15 Find the gradient of the line $4y = 3x - 7$.

..... [1]

16 The point A has co-ordinates (2, 7).
The point B has co-ordinates (5, 1).

Find the co-ordinates of the midpoint of the line AB.

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

17 The function $f(x) = x^2$ is defined for $-3 \leqslant x \leqslant 6$.

Write down the range of $f(x)$.

..... [2]

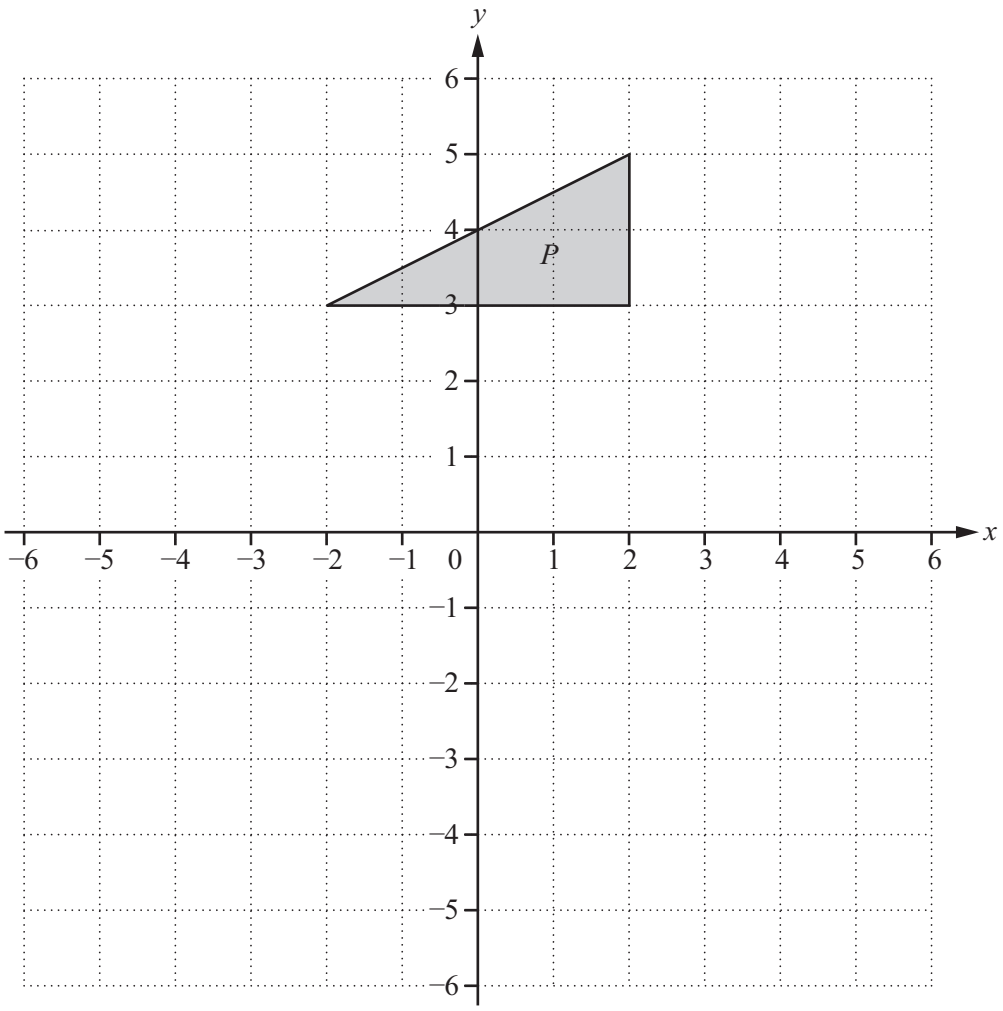
Questions 18 and 19 are printed on the next page.

18 Describe the **single** transformation that maps the graph of $y = \frac{1}{x}$ onto the graph of $y = \frac{1}{x+3}$.

.....

[2]

19



Reflect triangle P in the line $y = x$. [2]

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