UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

5853680123

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/01**

Paper 1 (Core) **May/June 2009**

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, highlighters, glue or correction fluid.
You may use a 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 of the marks for this paper is 40.

For Examiner's Use

This document consists of **10** printed pages and **2** blank pages.

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 **(a)** List all six factors of 18.

Answer (a) ....., ..., ..., ..., ..., ... [1]

(b) Find the highest common factor of 18 and 24.

Answer (b) ..... [2]

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2 **(a)** Work out $2 + 3 \times 4$.

Answer (a) ..... [1]

(b) The lowest temperature in Geneva one year was −15 °C.
The highest temperature the same year was 50 °C above this.
What was the highest temperature?

Answer (b) ..... °C [1]

(c) Gerry and Danos share $450.

Danos receives $\frac{2}{5}$ of this amount.

Work out how much Danos receives.

Answer (c) $ ..... [1]

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3 **(a)** Write $5\times5\times5\times5$ as a power of 5.

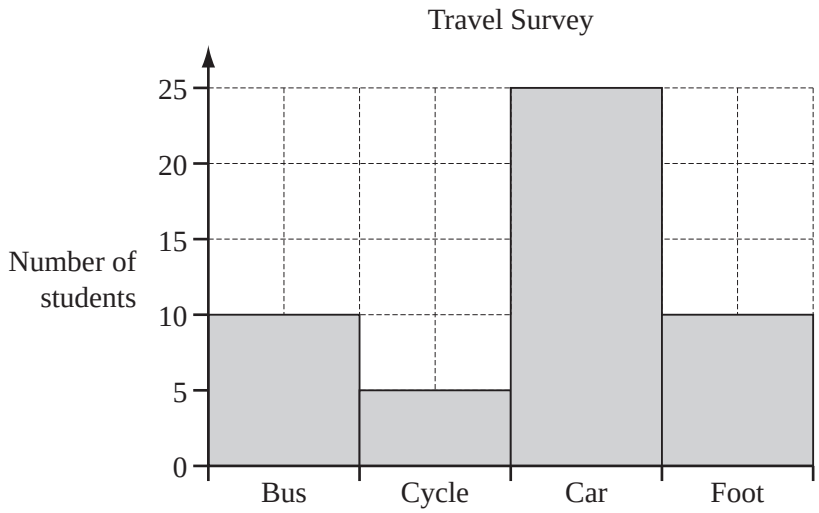
Answer (a) ..... [1]

(b) Simplify.

$2x^5 \times 3x^2$

Answer (b) ..... [2]

4



50 students took part in a survey on how they travelled to school.

What fraction of the students travelled by car?
Give your answer in its lowest terms.

Answer ..... [2]

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5 **(a)** Put a ring around the letters below that have line symmetry.

P A L E

[2]

(b) Put a ring around the letters below that have rotational symmetry.

N U T S

[2]

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6 **(a)** Factorise completely.

$3p^2 - 12p$

Answer (a) ..... [2]

(b) Expand and simplify.

$3(2x + y) - 2(x - 3y)$

Answer (b) ..... [2]

---

7 Solve the simultaneous equations.

$$x - y = 4$$
$$3x + 2y = 17$$

Answer $x =$ .....

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

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8 The first four terms of a sequence are 2, 7, 12, 17.

(a) Write down the next two terms of the sequence.

Answer (a) ..... , ... [1]

(b) Find the nth term of the sequence.

Answer (b) ..... [2]

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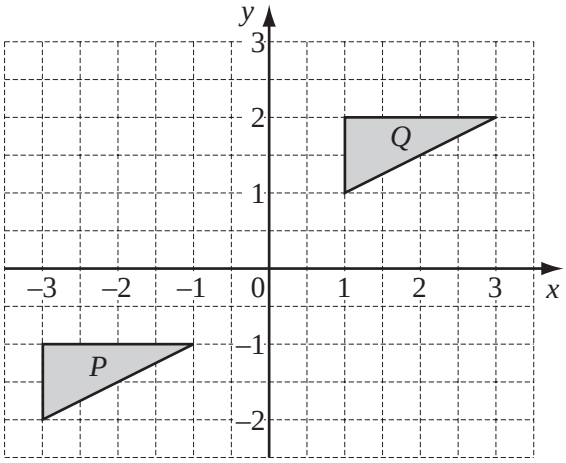
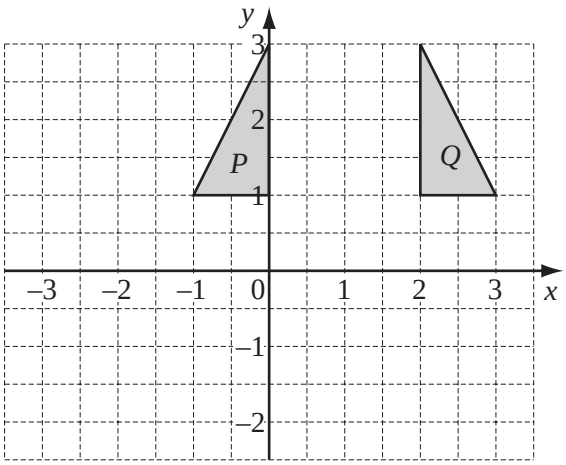
9 Describe fully the **single** transformation that maps triangle P onto triangle Q in each diagram

(a)



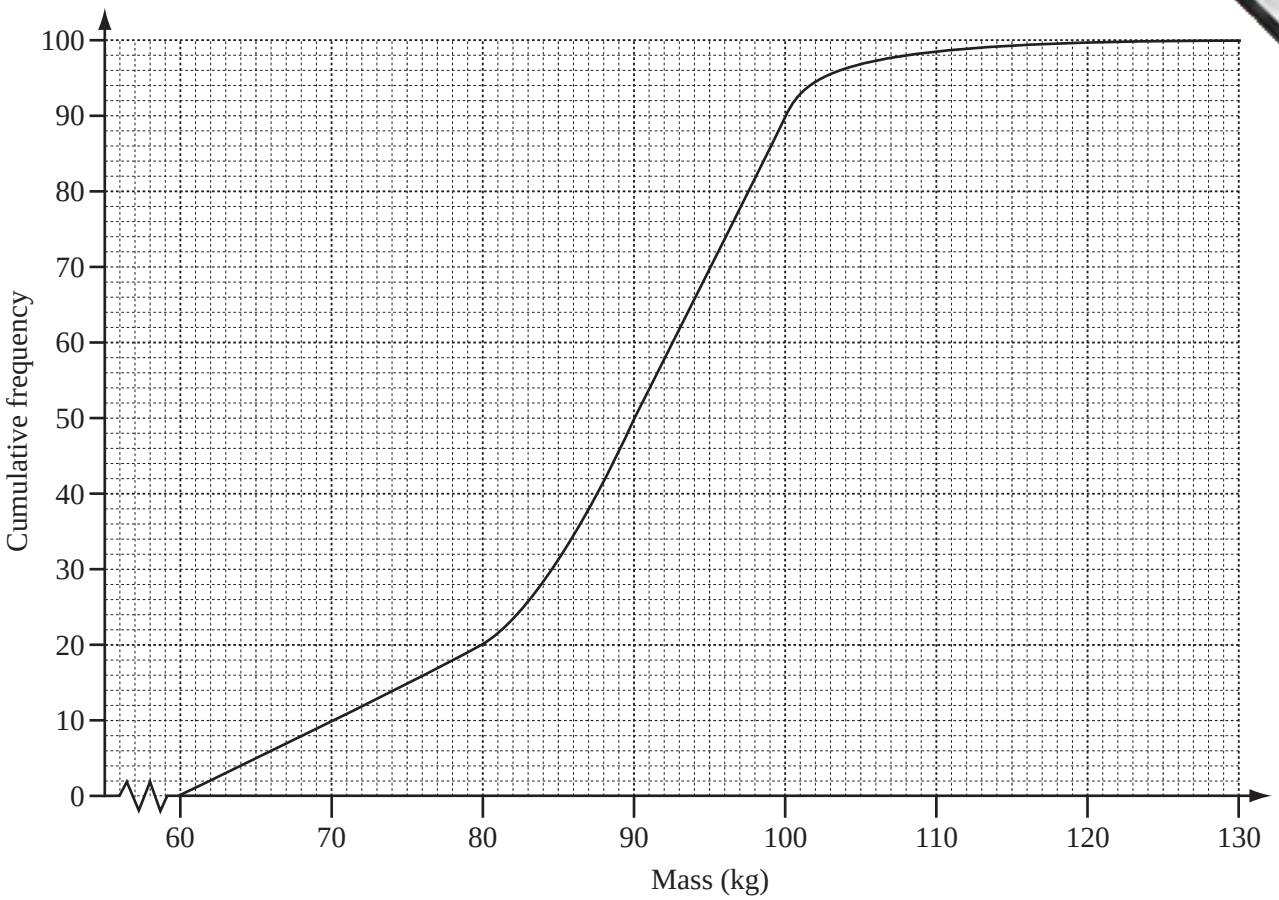
Answer (a) ..... [2]

(b)



Answer (b) ..... [2]

10 The masses of a number of athletes were recorded.
The results are shown in the cumulative frequency diagram.



(a) How many masses were recorded altogether?

Answer (a) ..... [1]

(b) How many athletes had a mass less than 80 kg?

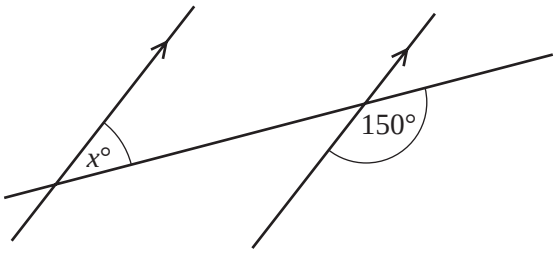
Answer (b) ..... [1]

(c) Find the median mass.

Answer (c) ..... kg [1]

11 Find the values of x, y and z in the diagrams below.

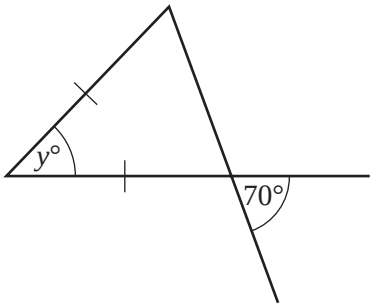
(a)



NOT TO SCALE

Answer (a) $x =$ ..... [1]

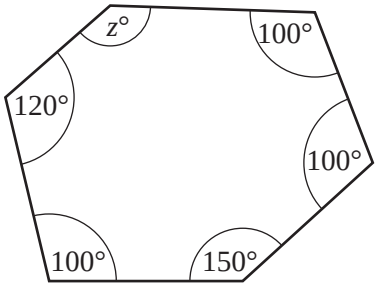
(b)



NOT TO SCALE

Answer (b) $y =$ ..... [2]

(c)



NOT TO SCALE

Answer (c) $z =$ ..... [2]

Question 12 is on the next page

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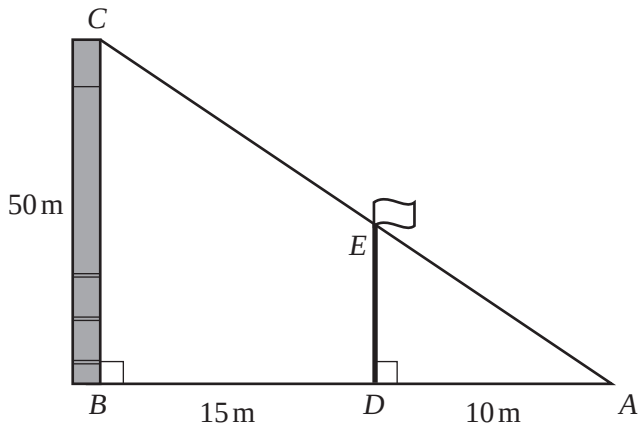

NOT TO SCALE

The diagram shows a tower BC of height 50 m.
The tower is 15 m from a flagpole DE.
The flagpole is 10 m from a point A on horizontal ground.
Find the height, DE, of the flagpole.

Answer DE = ... m [3]

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