



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

CANDIDATE  
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**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**

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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.

For  
Examiner's  
Use

- 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  $-15^{\circ}\text{C}$ .  
The highest temperature the same year was  $50^{\circ}\text{C}$  above this.  
What was the highest temperature?

Answer (b) .....  $^{\circ}\text{C}$  [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  $5 \times 5 \times 5 \times 5$  as a power of 5.

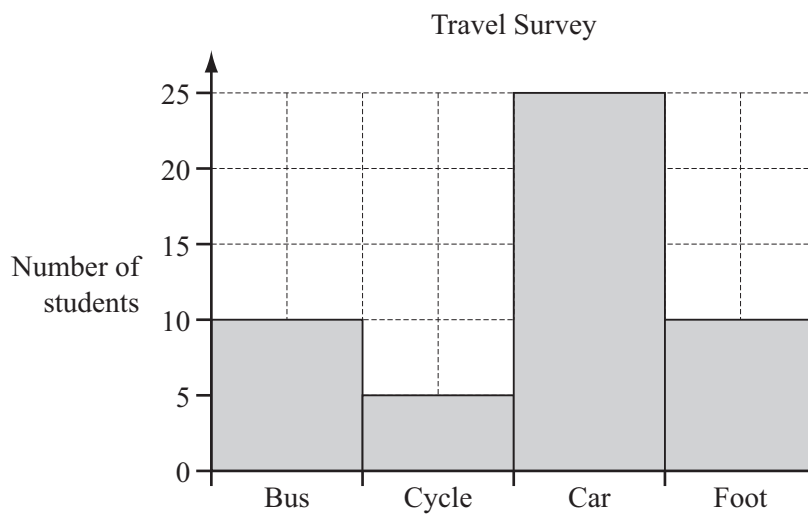
Answer (a) ..... [1]

(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]

- 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]

- 6 (a) Factorise completely.

$$3p^2 - 12p$$

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

- (b) Expand and simplify.

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

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

For  
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Use

7 Solve the simultaneous equations.

$$\begin{aligned}x - y &= 4 \\3x + 2y &= 17\end{aligned}$$

For  
Examiner's  
Use

Answer  $x =$  .....  
 $y =$  ..... [3]

---

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  $n$ th term of the sequence.

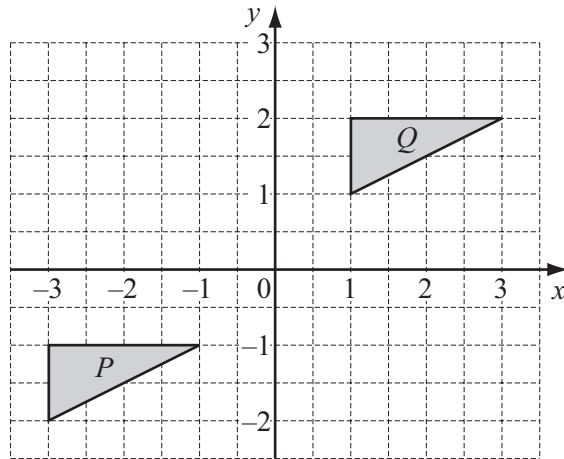
Answer (b) ..... [2]

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

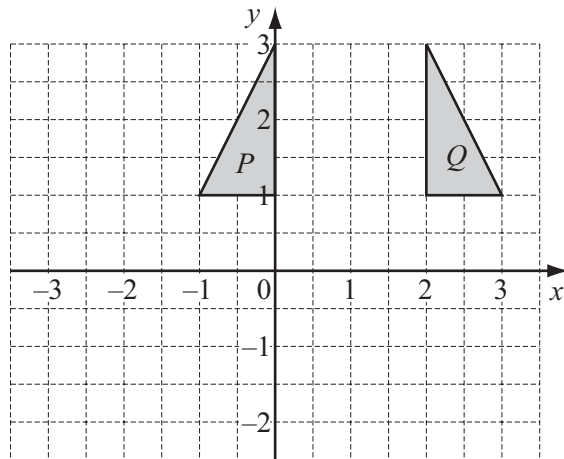
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Use

(a)



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

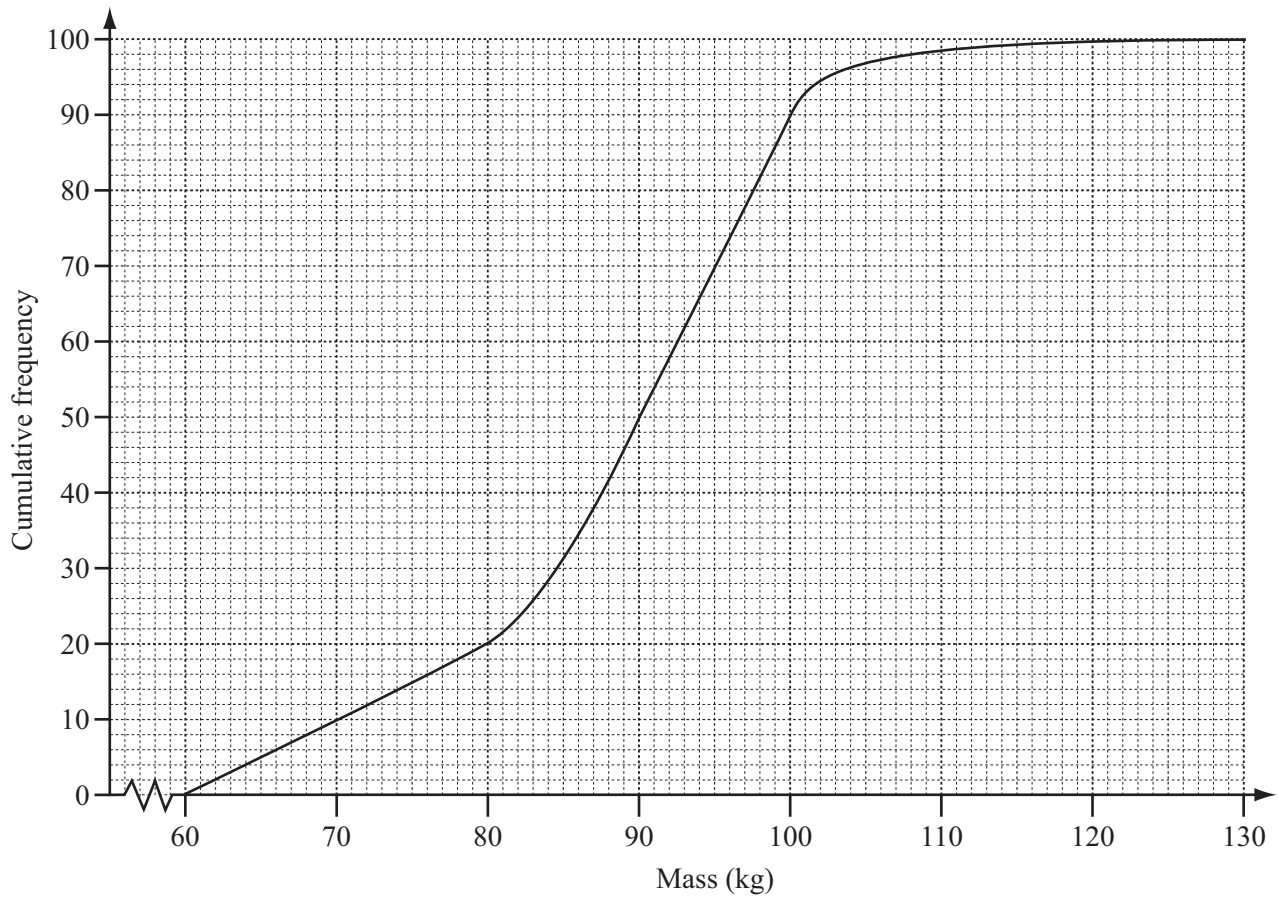
(b)



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

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

For  
Examiner's  
Use



- (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.

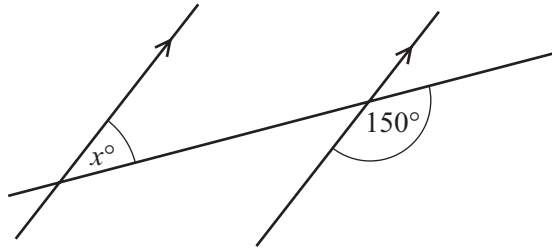
Answer (c) ..... kg [1]



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

For  
Examiner's  
Use

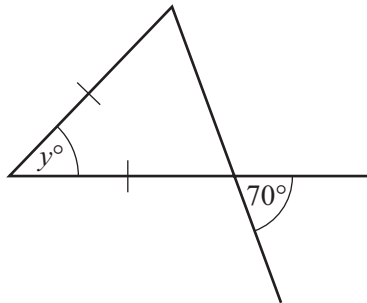
(a)



NOT TO  
SCALE

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

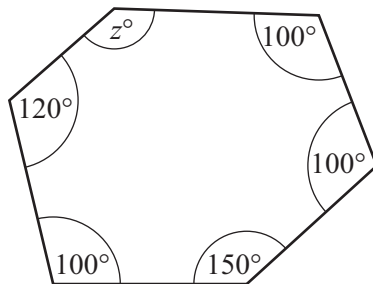
(b)



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

(c)

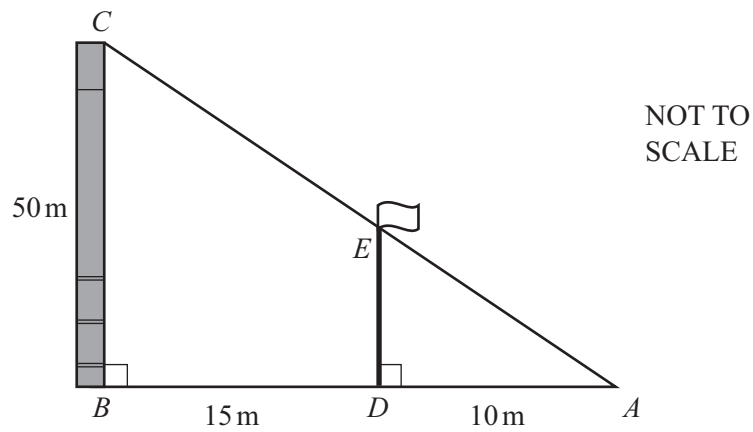


NOT TO  
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Answer (c)  $z =$  ..... [2]

Question 12 is on the next page

12

For  
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Use

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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