OCR
RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT)

M6 B246A

MODULE M6 – SECTION A

TUESDAY 13 MARCH 2007 Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
Tracing paper (optional)

CUP/T34547

Candidate Name

Centre Number

Candidate Number

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate number in the boxes above.
- Answer **all** the questions.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- In many questions marks will be given for a correct method even if the answer is incorrect.
- Do **not** write in the bar code.
- Do **not** write outside the box bordering each page.
- WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this Section is 25.

WARNING
You are not allowed to use a calculator in Section A of this paper.

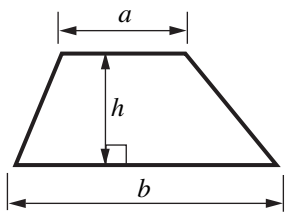
For Examiner's Use	
Section A	
Section B	
Total	

This document consists of **8** printed pages.

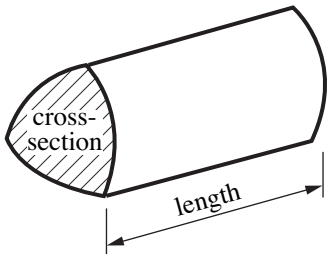
[Turn over

Formulae Sheet

Area of trapezium = $\frac{1}{2}(a + b)h$

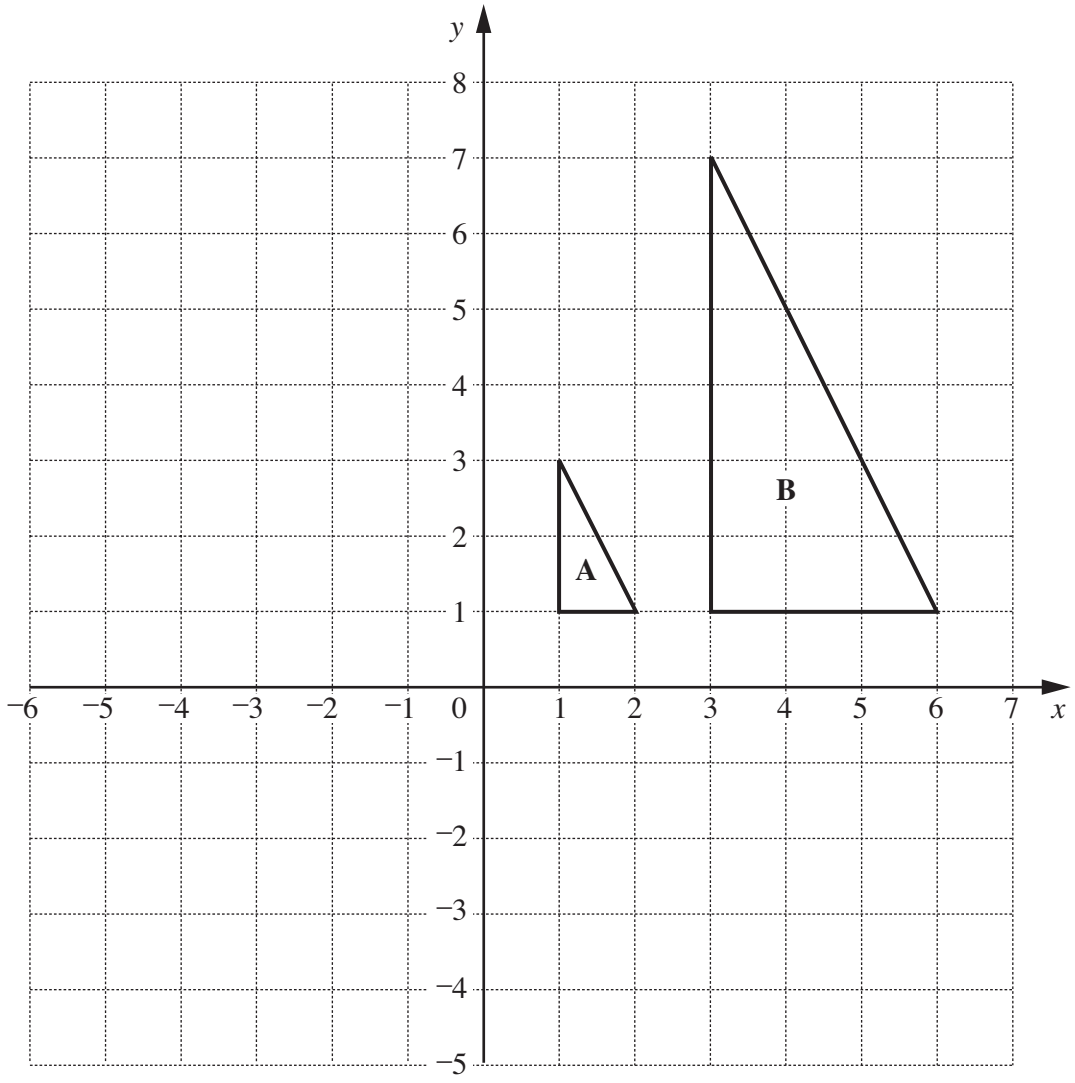


Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

1



(a) Reflect triangle **A** in the *x*-axis.
Label the image **C**. [1]

(b) Triangle **B** is an enlargement of triangle **A**.

Complete these statements.

(i) The scale factor of this enlargement is ..... . [1]

(ii) The centre of enlargement is (..... , ...). [1]

3

2 **(a)** Work out.

(i) 9·6 – 3·42

(a)(i) ..... [1]

(ii) 4·6 ÷ 4

(ii) ..... [2]

(b) Change $\frac{7}{8}$ into a decimal.

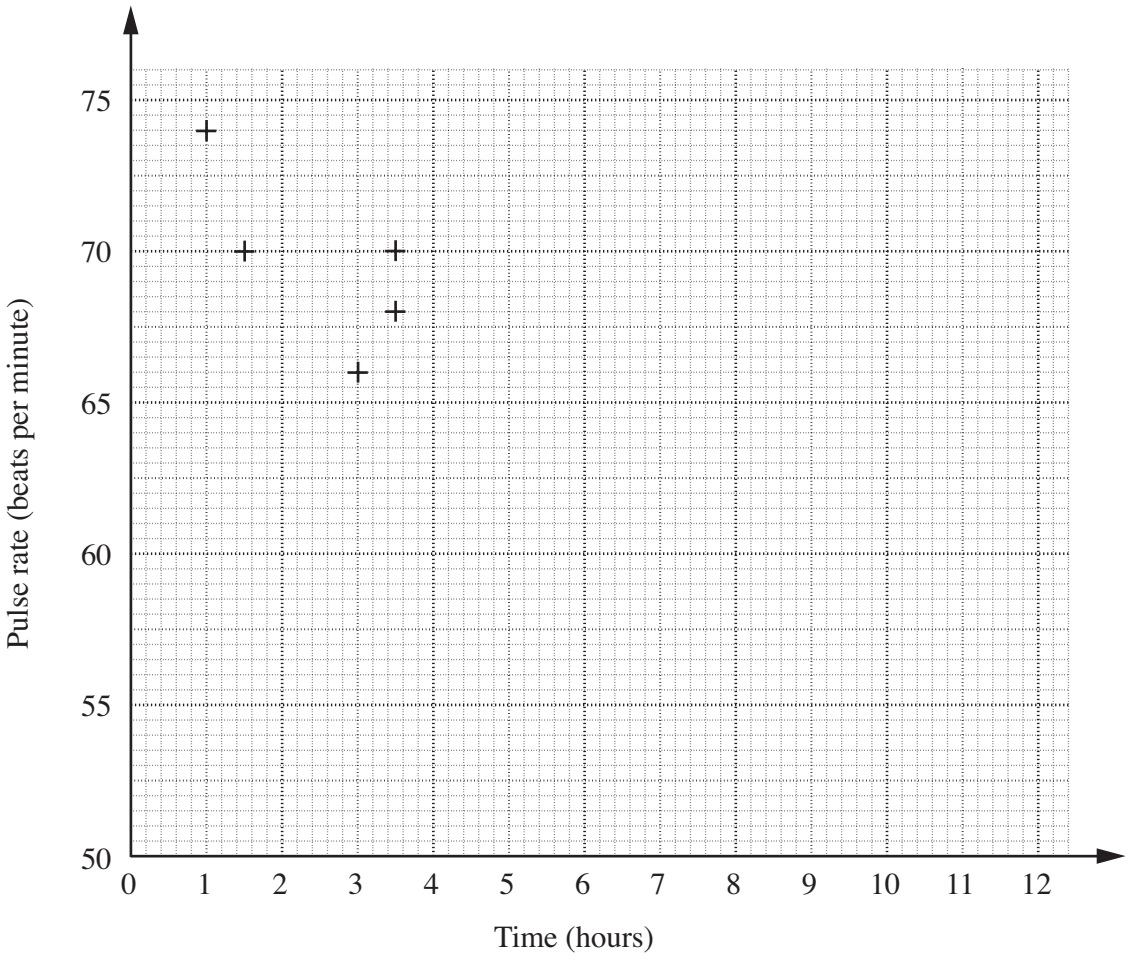
(b) ..... [2]

5

3 Imran asked 10 members of a sports club how long they spent exercising last week.
He also measured their resting pulse rate.
His results are shown in the table.

Hours spent exercising	1	1·5	3	3·5	3·5	5	7	9	9·5	11
Resting pulse rate (beats per minute)	74	70	66	70	68	65	62	63	64	58

The results for the first five members have been plotted on the scatter diagram below.



(a) Complete the scatter diagram. [2]

(b) Describe the correlation.

..... [1]

(c) **(i)** Draw a line of best fit on the diagram. [1]

(ii) Another member, Paul, spent 8 hours exercising last week.

Use your line to estimate his resting pulse rate.

(c)(ii) ..... beats per minute [1]

5

4 Work out the value of $x^2 + 5x$ when

(a) $x = 4$,

(a) ..... [1]

(b) $x = -2$.

(b) ..... [2]

3

5 Solve.

(a) $2x - 7 = 4$

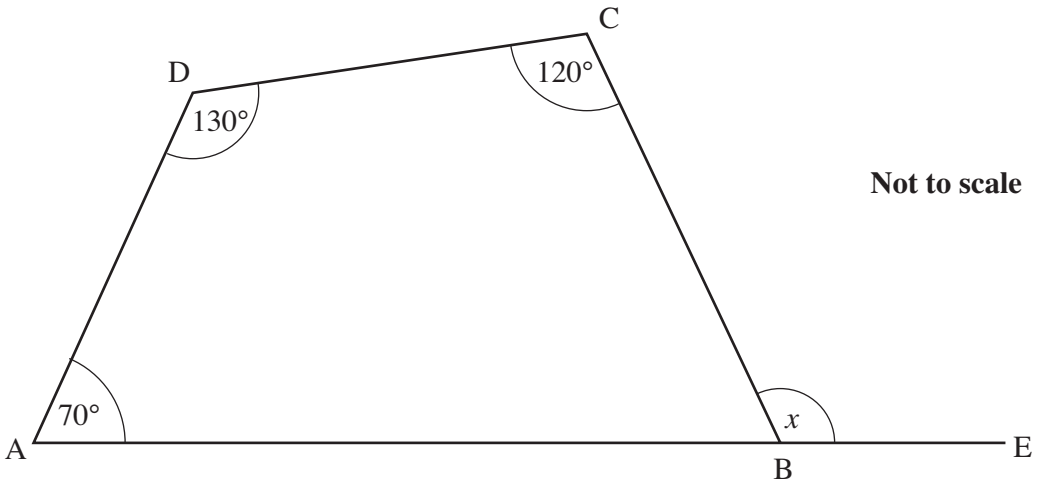
(a) ..... [2]

(b) $7x + 2 = 4x - 7$

(b) ..... [3]

5

6



ABCD is a quadrilateral.
ABE is a straight line.

Work out angle x.
Give a reason for each step of your answer.

.....° because .....

.....

..... [4]

4

PLEASE DO NOT WRITE ON THIS PAGE