

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B276A

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M6 (SECTION A)

TUESDAY 21 JUNE 2011: Afternoon

DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the question paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments

Tracing paper (optional)

WARNING

**No calculator can be used for
Section A of this paper.**

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

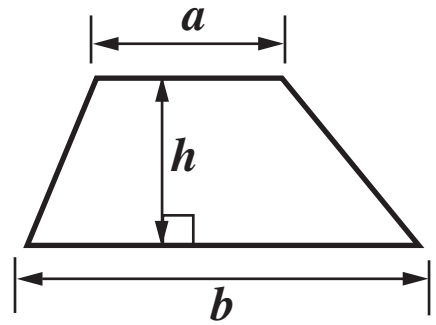
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Answer ALL the questions.**

INFORMATION FOR CANDIDATES

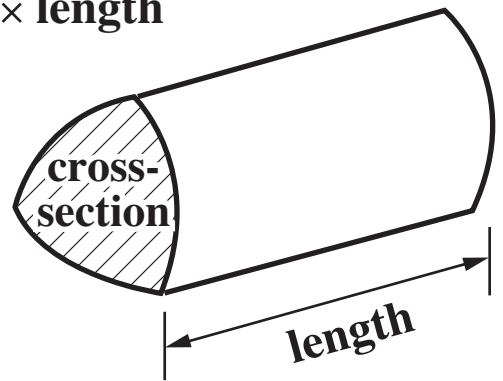
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

FORMULAE SHEET

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



Volume of prism = (area of cross-section) \times length



1 Work out.

(a) $\frac{5}{12} + \frac{1}{4}$

Give your answer as a fraction in its simplest form.

(a) _____ **[3]**

(b) $10 - 6 \div 2$

(b) _____ **[1]**

2 Work out the value of $m^2 + m$ when

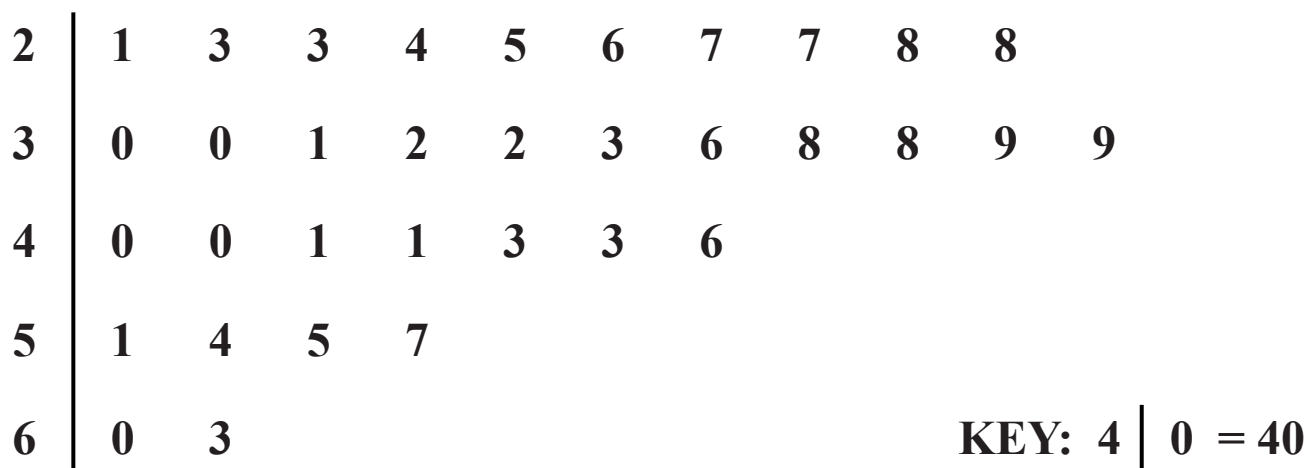
(a) $m = 3$,

(a) _____ [1]

(b) $m = -5$.

(b) _____ [2]

3 This stem and leaf diagram shows the ages, in years, of the 34 members using a health club at 7 o'clock one evening.



(a) Find

(i) the range,

(a)(i) _____ [1]

(ii) the median.

(ii) _____ [2]

- (b) The health club also recorded the ages of the members using the club at 11 o'clock one morning.
The ages of these members had a median of 43.**

Explain what the medians tell you about the ages of the members using the club at the two different times.

[1]

- (c) Chaminda uses the treadmill at the health club.
It has four programmes.
He chooses only one of the four programmes.
This table shows the probabilities of him choosing each programme.**

Programme	Probability
Fat Burner	0.35
Hill Walking	0.2
Random	0.3
Quick Start	

Complete the table. **[2]**

4 (a) Write $7 \times p \times p$ as simply as possible.

(a) _____ [1]

(b) Multiply out.

$$4(3x - 5)$$

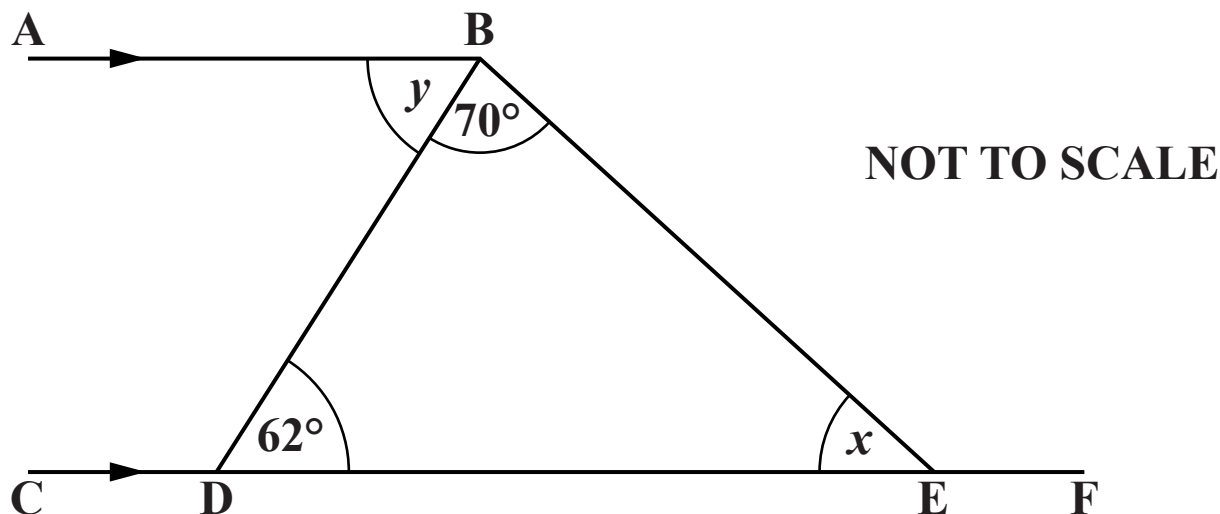
(b) _____ [1]

(c) Factorise.

$$x^2 - 7x$$

(c) _____ [1]

- 5 In the diagram below, CDEF is a straight line.
 AB is parallel to CF.
 Angle DBE = 70° and angle BDE = 62° .



- (a) Complete this sentence by giving a reason for the answer.

$x = 48^\circ$ because _____

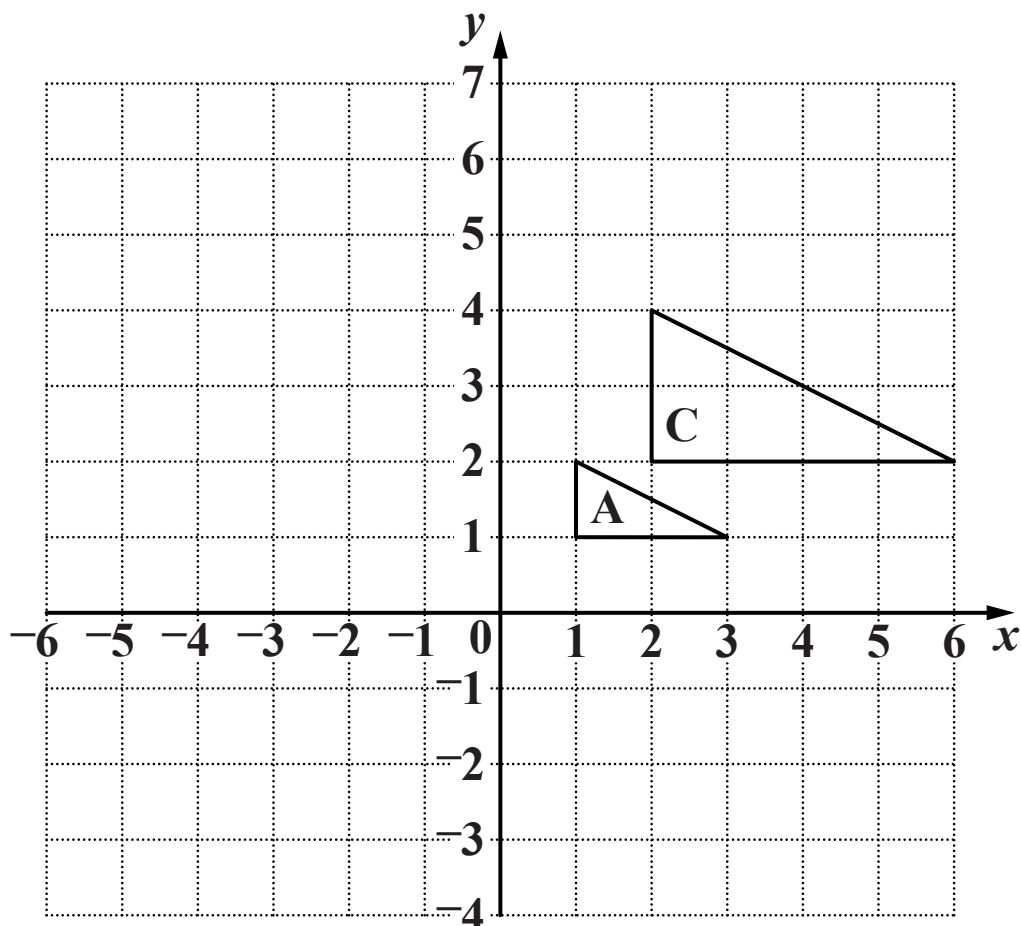
_____ [1]

- (b) Find angle y .
 Give a reason for your answer.

$y =$ _____ $^\circ$ because _____

_____ [2]

6 Triangles A and C are drawn on the grid below.



(a) Translate triangle A 5 squares left and 4 squares down.
Label the image B. [1]

(b) Complete this description of the SINGLE
transformation that maps triangle A onto triangle C.

Enlargement with _____

_____ [2]

7 Solve.

$$8x + 2 = 17 - 2x$$

_____ **[3]**



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