OCR
RECOGNISING ACHIEVEMENT

# M6

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**

## MATHEMATICS C (GRADUATED ASSESSMENT) B276A

MODULE M6 – SECTION A

*CUP/T61784*

Candidates answer on the question paper

**OCR Supplied Materials:**
None

**Other Materials Required:**
- Geometrical instruments
- Tracing paper (optional)

**Monday 9 March 2009**
**Morning**

**Duration:** 30 minutes

*B276A*

| Candidate Forename | | Candidate Surname | |
|---|---|---|---|

| Centre Number | | | | | | Candidate Number | | | | |
|---|---|---|---|---|---|---|---|---|---|---|

**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. Marks may be given for a correct method even if the answer is incorrect.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

**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**.
- This document consists of **8** pages. Any blank pages are indicated.

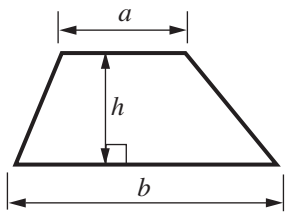
**WARNING**

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

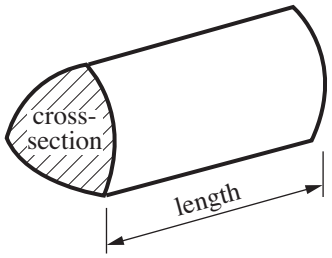
| FOR EXAMINER'S USE | |
|---|---|
| SECTION A | |
| SECTION B | |
| TOTAL | |

## Formulae Sheet

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




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

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**1** **(a)** Complete this addition grid.

| + | 1·47 | 6·8 |
|---|---|---|
| 2·39 | 3·86 | |
| | 2·43 | 7·76 |

**[2]**

**(b)** Complete this multiplication grid.

| × | 0·03 | |
|---|---|---|
| 6 | 0·18 | 9·6 |
| 0·5 | | |

**[3]**

**2** Radjek played three golf tournaments.
For these tournaments his modal score was 78 and his mean score was 80.

What were his scores for the three golf tournaments?

..... ..... .....

**[3]**

**3** Work out, giving your answers in their simplest form.

**(a)** $\frac{3}{4} \times \frac{1}{6}$

**(a)** ..... **[2]**

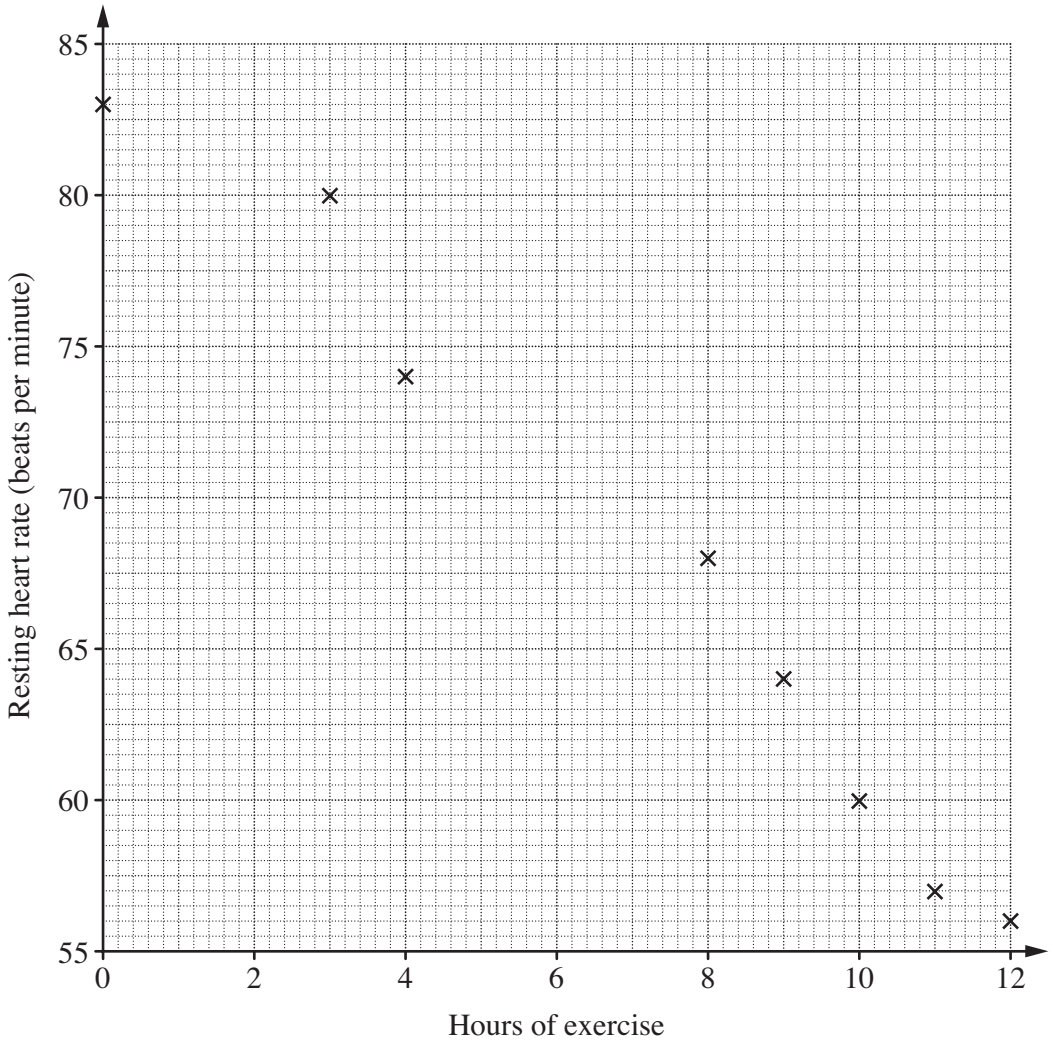
**(b)** $\frac{7}{12} - \frac{1}{4}$

**(b)** ..... **[3]**

**4** The table shows the average hours of exercise per week and the resting heart rate for 10 students.

| Hours of exercise | 10 | 4 | 11 | 3 | 8 | 12 | 9 | 0 | 1 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Resting heart rate (beats per minute) | 60 | 74 | 57 | 80 | 68 | 56 | 64 | 83 | 84 | 58 |

The points for the first eight students are plotted below.




**(a)** Plot the points for the remaining two students. **[1]**

**(b)** Describe the correlation shown.

..... **[1]**

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

**(ii)** Another student exercises for 7 hours per week.

Estimate her resting heart rate.

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

**5** Work out the value of $x^2 + 3x$ when

**(a) (i)** $x = 4$,

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

**(ii)** $x = {}^{-}5$.

**(ii)** ..... **[2]**

**(b)** Multiply out.

$5(x - 7)$

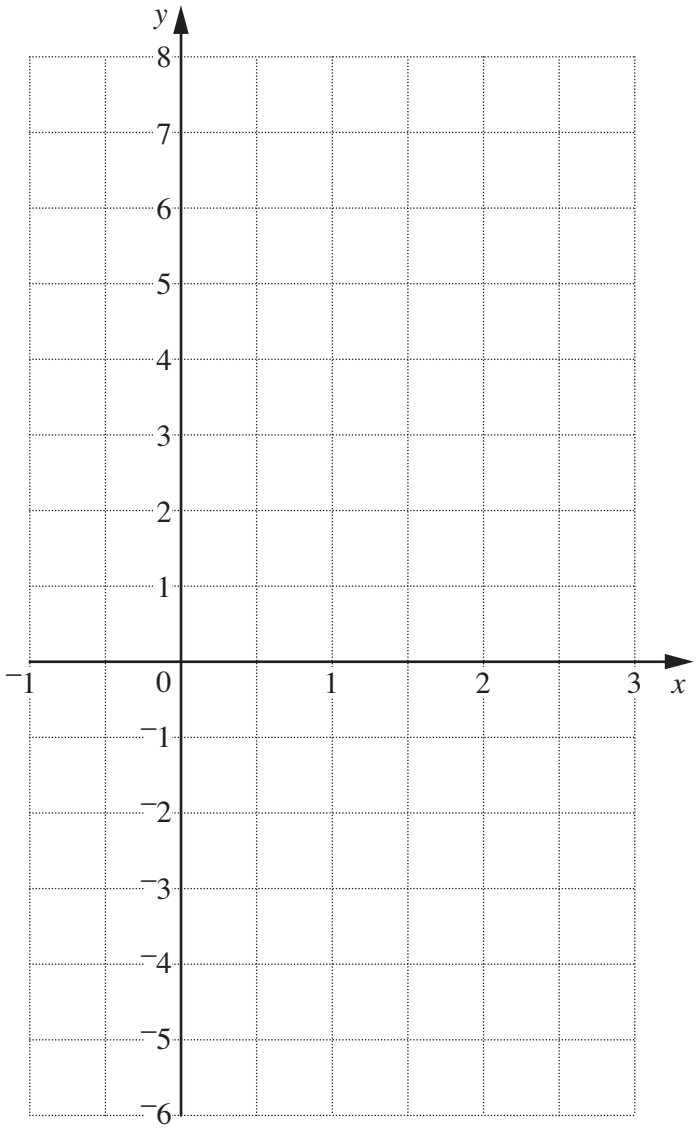
**(b)** ..... **[1]**

**(c)** Factorise.

$b^2 - 4b$

**(c)** ..... **[1]**

**6** Draw the graph of $y = 3x - 2$ for values of $x$ from $^{-}1$ to 3.




**[3]**

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