OCR
RECOGNISING ACHIEVEMENT

M6

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT) B276A

MODULE M6 (SECTION A)

OCE/12349

Candidates answer on the Question Paper

OCR Supplied Materials:
None

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

Monday 21 June 2010
Afternoon

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. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

INFORMATION FOR CANDIDATES

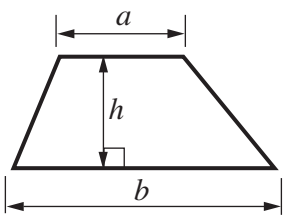
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

WARNING

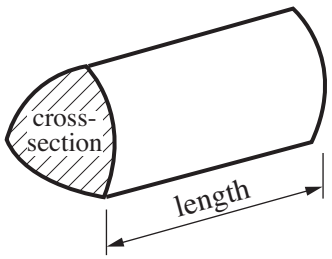
No calculator can be used for Section A of this paper

Formulae Sheet

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



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



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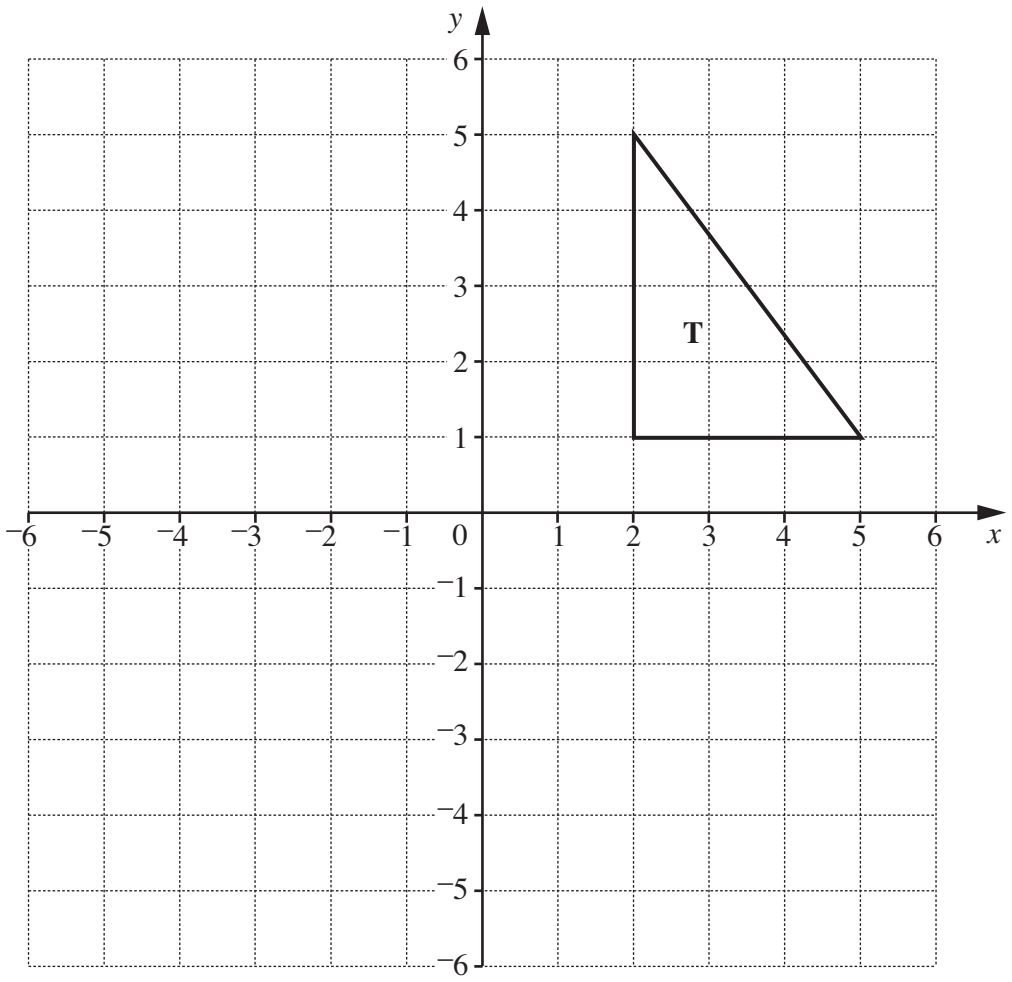
1



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

(b) Rotate triangle **T** through 90° anticlockwise about the origin.
Label the image **B**. **[3]**

2 **(a)** Write $\frac{7}{8}$ as a decimal.

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

(b) Work out.

$$\frac{2}{5} \times \frac{1}{4}$$

Give your answer as a fraction in its simplest form.

(b) ..... **[2]**

3 **(a)** Work out the value of $3x + 2$ when $x = {}^{-}4$.

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

(b) Work out the value of $2x^3 - 1$ when $x = 2$.

(b) ..... **[2]**

4 **(a)** Terry uses a **biased** coin to play a game.
The probability of getting 'Heads' is $\frac{2}{5}$.

What is the probability of getting 'Tails' for Terry's coin?

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

(b) Terry also uses a biased four-sided dice.
The probability of getting each number is given in the table.

Number	1	2	3	4
Probability	0·3	0·1		0·45

Complete the table. **[2]**

5 **(a)** Anwar and Colin work out this sum.

$$4 + 2 \times 3 =$$

Anwar says the answer is 18.
Colin says the answer is 10.

Who is correct?
Give a reason.

Write Anwar or Colin.

..... because .....

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

(b) Work out.

$$(14 - 6) \times 3^2$$

(b) ..... **[2]**

6 **(a)** Solve.

$$4x - 3 = 27$$

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

(b) Solve.

$$5x + 11 = 3x + 25$$

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

7 In July, a sports club had 25 male members and some female members.
By September the membership had increased to 48.
In September the ratio of males to females was 5 : 1.

How many **more** male members were there in September than in July?

..... **[3]**

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