OCR
RECOGNISING ACHIEVEMENT

M5

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

B275A

MODULE M5 – SECTION A

CUP/T61714

Candidates answer on the question paper

OCR Supplied Materials:
None

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

Monday 9 March 2009
Morning

Duration: 30 minutes

B275A

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.

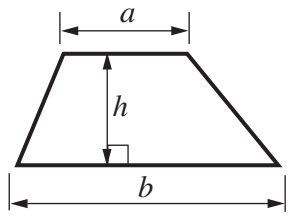
WARNING

No calculator can be used for Section A of this paper

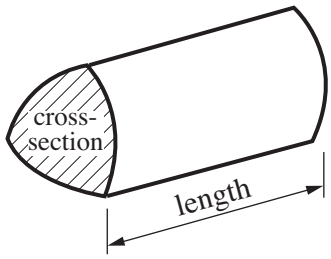
FOR EXAMINER'S USE	
SECTION A	
SECTION B	
TOTAL	

Formulae Sheet

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



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



PLEASE DO NOT WRITE ON THIS PAGE

1 Fill in the missing numbers.

(a) $^{-}8 +$ ..... $= {}^{-}2$ **[1]**

(b) ..... $\times 2 = {}^{-}8$ **[1]**

(c) $2 - {}^{-}8 =$ ..... **[1]**

(d) $4^3 =$ ..... **[1]**

(e) $3 \times 3 \times 3 \times 3 \times 3 = 3^{\cdots\cdots}$ **[1]**

2 Tyrone has these cards.

A $e + e + e$	B $2e \times 4$	C $2e + 2e + 2e$	D $5e - e$

3 $3e$	4 $4e$	5 $5e$	6 $6e$	7 $7e$	8 $8e$

Find the matching pairs.
The first pair has been done for you.

A matches with 3

B matches with ☐

C matches with ☐

D matches with ☐

[2]

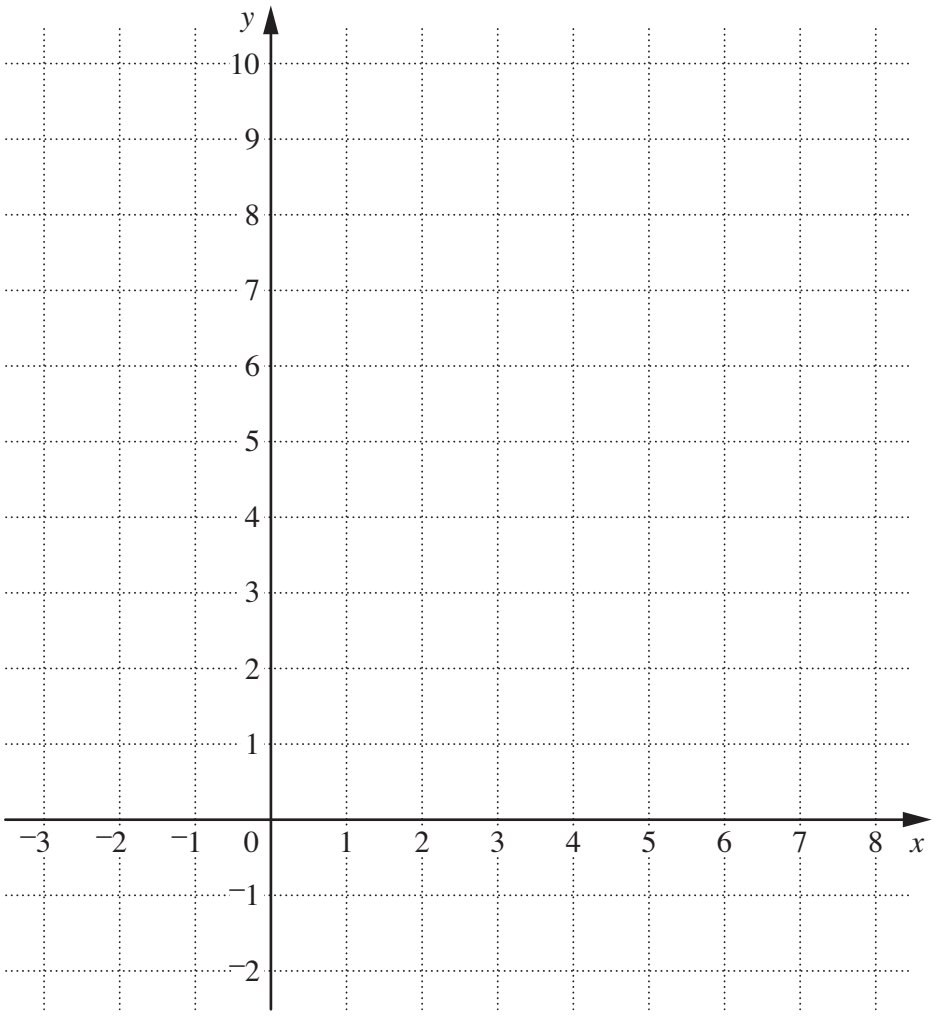
3 **(a)** Complete the table for this equation.

$$y = x + 5$$

x	1	2	3	4
y		7		

[1]

(b) Draw the graph of the equation $y = x + 5$.



[2]

4 **(a)** Round 48·947 to 1 decimal place.

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

(b) Estimate the answer to 486·5 ÷ 52·38.

Show the estimates you make.

(b) ..... ÷ ..... = ...**[2]**

(c) Write a digit in each empty box to make a true statement.

$$\square\,.\,\square = \frac{\square\,\square}{1\,0\,0}$$

[1]

5 **(a)** Mike has a fair dice labelled 2, 2, 3, 3, 4, 4.
Mike rolls this dice.

What is the probability that he gets a 4?

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

(b) **(i)** Petra has a fair coin, with a tail and a head.
She also has a fair spinner labelled 1, 2, 3, 4.
She spins the coin and the spinner together.
The first time she does this she gets a head and a 3 (H3).

In this space, list all the different combinations she could get.

[2]

(ii) What is the probability she gets a **head** and an **odd number** on the next spin?

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

6 Here are four statements that are **not always** true.

For each shape, complete the statement in the last column so that it is always true.
The first one has been completed for you.

Shape	Statement – **not always true**	Statement – **always true**
Square	All four angles are acute.	All four angles are right angles.
Rectangle	The diagonals bisect each other at right angles.	The diagonals …
Rhombus	All four sides are 6 cm.	All four sides …
Trapezium	It has two pairs of parallel sides.	It has … parallel sides.

[3]

TURN OVER FOR QUESTION 7

7

$\frac{20}{8}$	$2\frac{12}{16}$	$\frac{11}{16} \times 3$	$2\frac{1}{4}$	$\frac{42}{16}$

Which of these is the largest?
You must show all your working.

The largest is ..... **[4]**