OCR
RECOGNISING ACHIEVEMENT

M3

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT) B273B

MODULE M3 – SECTION B

OCE/T63865

Candidates answer on the question paper

OCR Supplied Materials:
None

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

Tuesday 23 June 2009
Morning

Duration: 30 minutes

B273B

Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

INSTRUCTIONS TO CANDIDATES

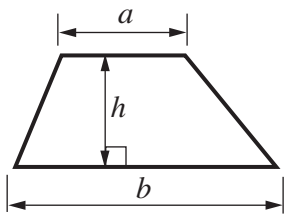
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working. 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

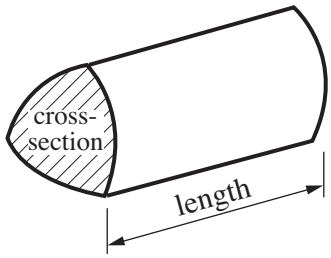
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- Section B starts with question 6.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

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

6 Work out.

(a) 17 squared

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

(b) $\sqrt{729}$

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

7 Megan points to a letter at random from this word.

M A T H E M A T I C S

What is the probability that she points to

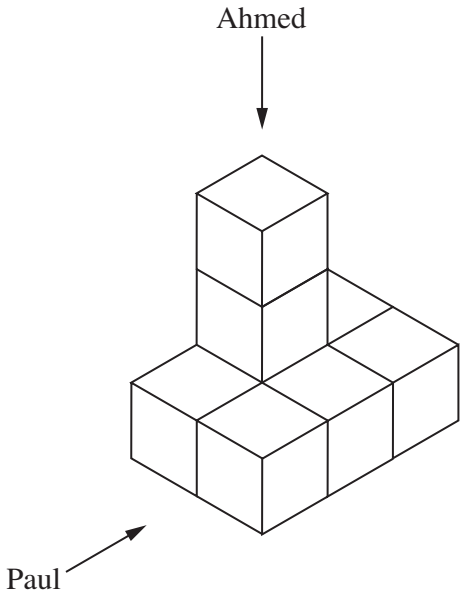
(a) the letter **E**,

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

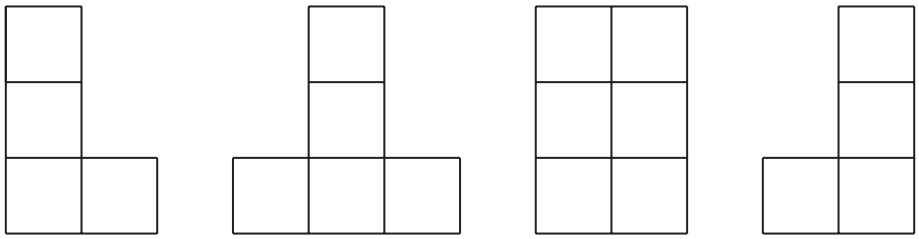
(b) the letter **M**?

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

8 **(a)** Ahmed and Paul look at this model made from 8 cubes.



Here are four views of the model.

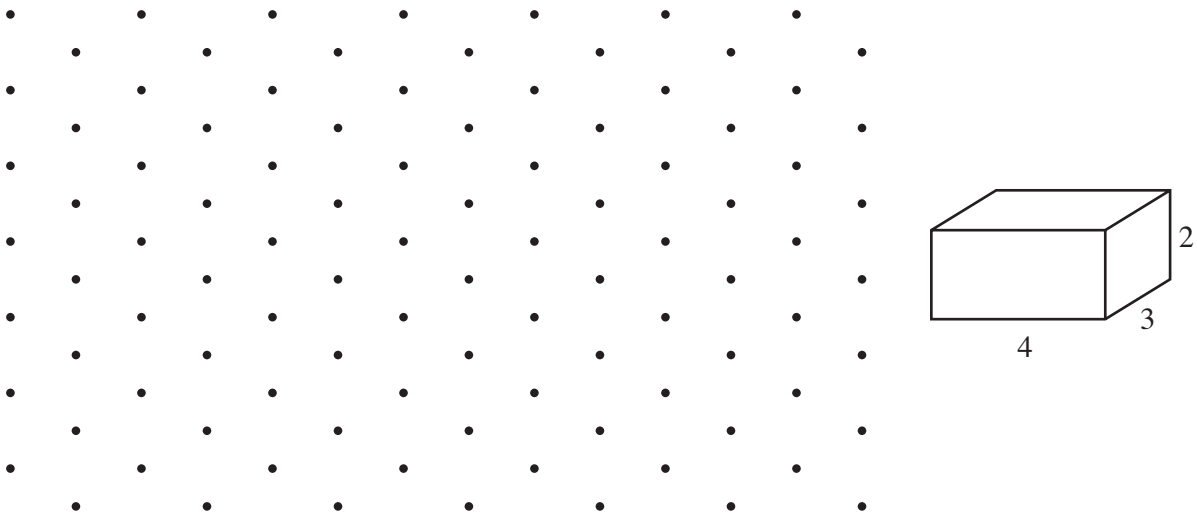


Complete these sentences.

Paul sees view ..... **[1]**

Ahmed sees view ..... **[1]**

(b) A cuboid is 4 cm long, 3 cm high and 2 cm wide.
Make a full-size isometric drawing of the cuboid.



[2]

9 Solve.

(a) $x + 7 = 22$

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

(b) $4x = 32$

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

(c) $24 - x = 15$

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

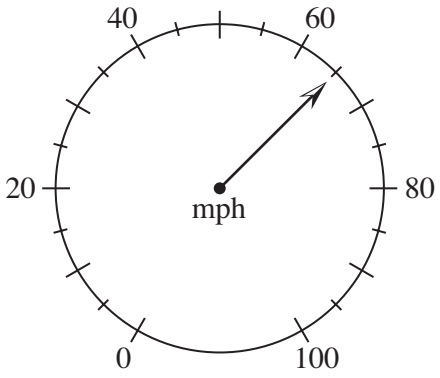
10 Howard and his friends have a tin of biscuits.
It contains 42 biscuits.

They eat $\frac{5}{6}$ of the biscuits.

How many biscuits do they eat?

..... **[2]**

11 **(a)** This is the speedometer in Bill's car.



What speed does it show?

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

(b) Last week Bill made 10 journeys.

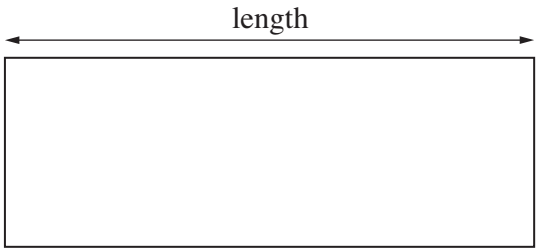
The distances of his journeys, in miles, are shown below.

14 45 68 7 29 34 57 21 11 42

Calculate the mean distance of his journeys.

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

(c) This is a scale drawing of the floor of Bill's garage.



Scale: 1 cm to 2 m

What is the **real** length of the garage floor in metres?

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

(d) Bill's handbook gives the length of his car as 4850 millimetres.

Write 4850 millimetres in metres.

(d) ..... m **[1]**

TURN OVER FOR QUESTION 12

12 Sean is planning a camping trip for himself and some friends.

(a) He uses this formula to work out how many litres of water he needs to take.

Multiply the number of people by 1·5 then add 6.

How many litres of water does he need to take for 18 people?

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

(b) Keith uses this formula to work out how many miles they will walk during the trip.

$$m = 3d + 5$$

m is the number of miles walked
d is the number of days

How many miles will they walk in 7 days?

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

(c) Paul has a bottle of water containing 850 millilitres.
Lewis has a bottle containing $\frac{1}{4}$ of a litre.
Paul and Lewis decide to put their drinks together.

Will their drinks fit into a 1 litre bottle?
Explain your answer.

Write Yes or No.

..... because .....

..... **[2]**