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OCR
RECOGNISING ACHIEVEMENT

M5

GENERAL CERTIFICATE OF SECONDARY EDUCATION
MATHEMATICS C (GRADUATED ASSESSMENT) B275B
MODULE M5 – SECTION B

Candidates answer on the question paper.

OCR supplied materials:
None

Other materials required:
- Geometrical instruments
- Tracing paper (optional)
- Pie chart scale (optional)
- Electronic calculator

Tuesday 1 March 2011
Morning

Duration: 30 minutes

Candidate forename		Candidate surname	

Centre number						Candidate number				

INSTRUCTIONS TO CANDIDATES

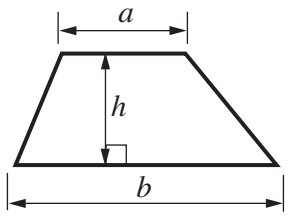
- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer 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.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

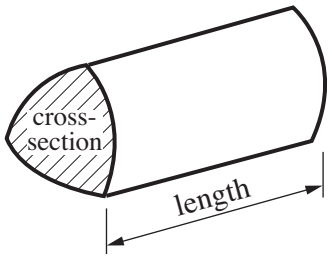
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- Section B starts with question 9.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **8** pages. Any blank pages are indicated.

Formulae Sheet

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

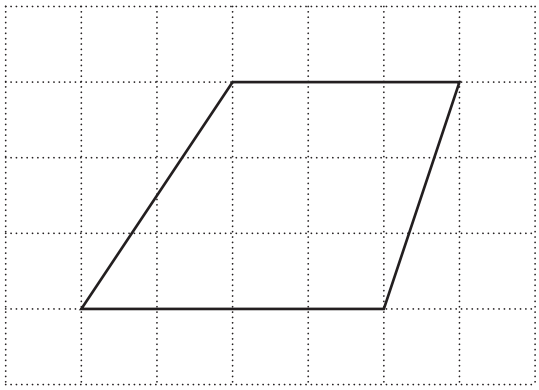


Volume of prism = (area of cross-section) × length



PLEASE DO NOT WRITE ON THIS PAGE

9 Saima tried to draw a parallelogram.
This is her shape.



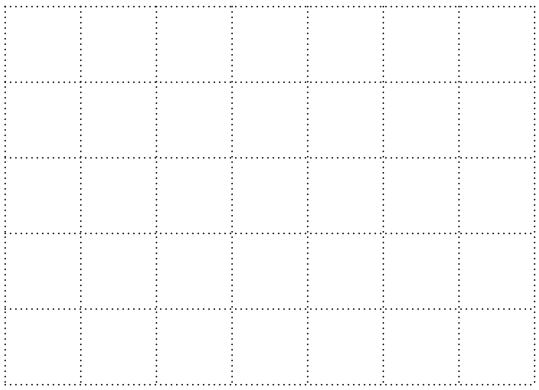
(a) Explain why this is not a parallelogram.

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

(b) What is the name of the quadrilateral that Saima has drawn?

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

(c) Draw a parallelogram on the grid below.



[1]

10 **(a)** Tony's Take Away sells pizzas.
Customers choose **two** toppings for their pizza from the list below.

Toppings

Ham (H)
Mushroom (M)
Peppers (P)

They can choose two different toppings or have both the same.

How many combinations of toppings are available?
Show how you worked it out.

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

(b) One lunchtime, 48 out of Tony's 80 customers are students.

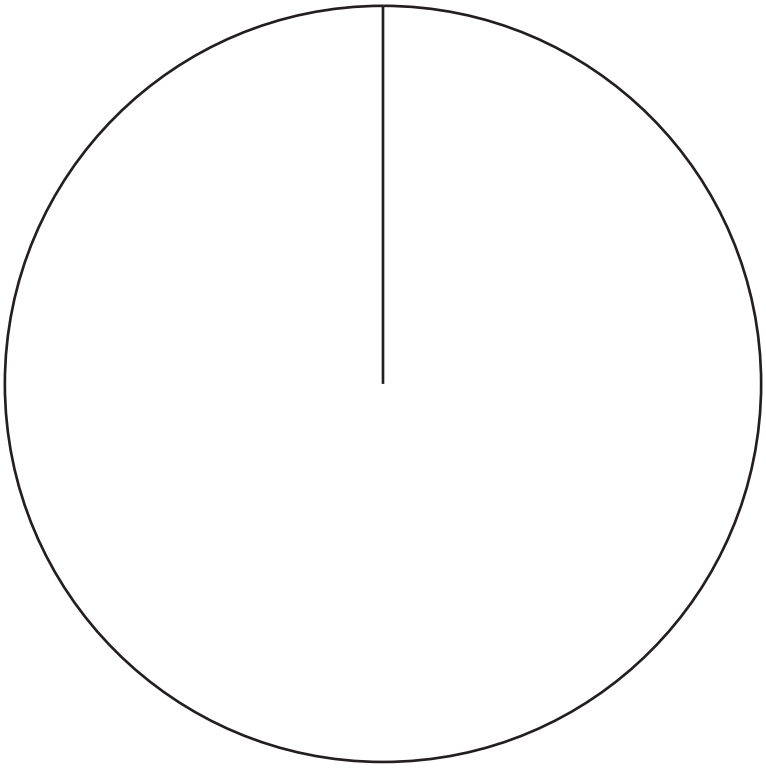
What percentage of his customers are students?

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

(c) One evening, Tony sells 180 meals.
He records the number of each type he sells.

Pizza	90
Chicken	45
Pasta	27
Burger	18

Draw a pie chart to illustrate the data.



[4]

11 **(a)** Simplify.

(i) $4t + 2t - 3t$

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

(ii) $3a + 2b - a + 5b$

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

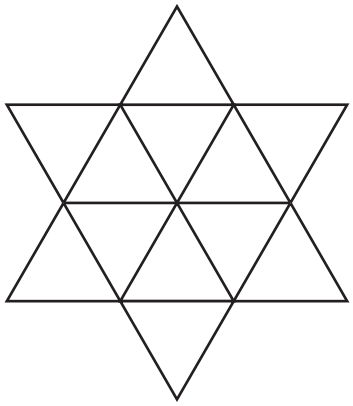
(b) Use the formula

$$e = 5c - 3d$$

to find e when $c = 2{\cdot}5$ and $d = 4$.

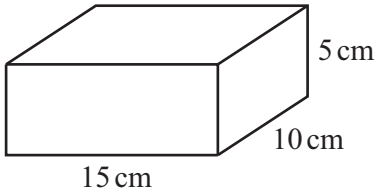
(b) .....**[2]**

12 Shade **six** of the small triangles in the shape below to make a pattern with rotation symmetry of order 3.



[2]

13



Find the volume of this cuboid.
Give the units of your answer.

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

TURN OVER FOR QUESTION 14

14 Andrea buys a new TV.
The cash price of the TV is £650.
Andrea buys the TV on credit.

Cash price	Credit terms
£650	15% deposit plus 24 monthly payments of £25

How much **more** than the cash price does Andrea pay?

£ .....**[4]**