

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

B275B

Candidates answer on the Question Paper

OCR Supplied Materials:
None

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

Monday 21 June 2010
Afternoon

Duration: 30 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

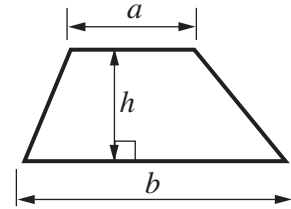
- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Show your working.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

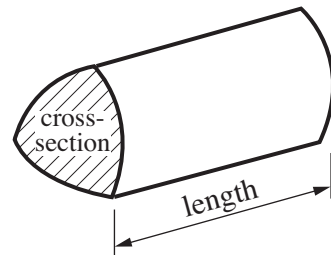
- The number of marks is given in brackets [] at the end of each question or part question.
- Section B starts with question 7.
- You are expected to use a calculator in Section B of this paper.
- The total number of marks for this Section is **25**.
- This document consists of **12** pages. Any blank pages are indicated.

Formulae Sheet

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



$$\text{Volume of prism} = (\text{area of cross-section}) \times \text{length}$$



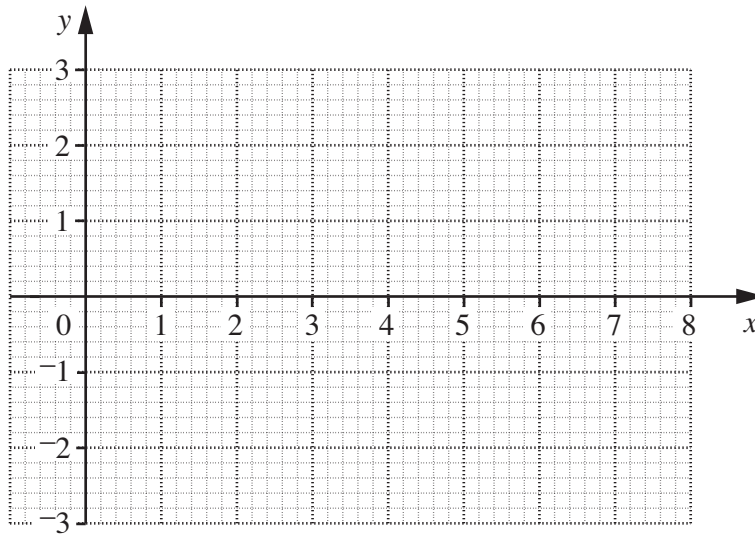
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- 7 (a) Complete this table for $y = \frac{1}{2}x - 2$.

x	2	4	8
y		0	

[1]

- (b) Draw the graph of $y = \frac{1}{2}x - 2$.



[2]

8 Solve.

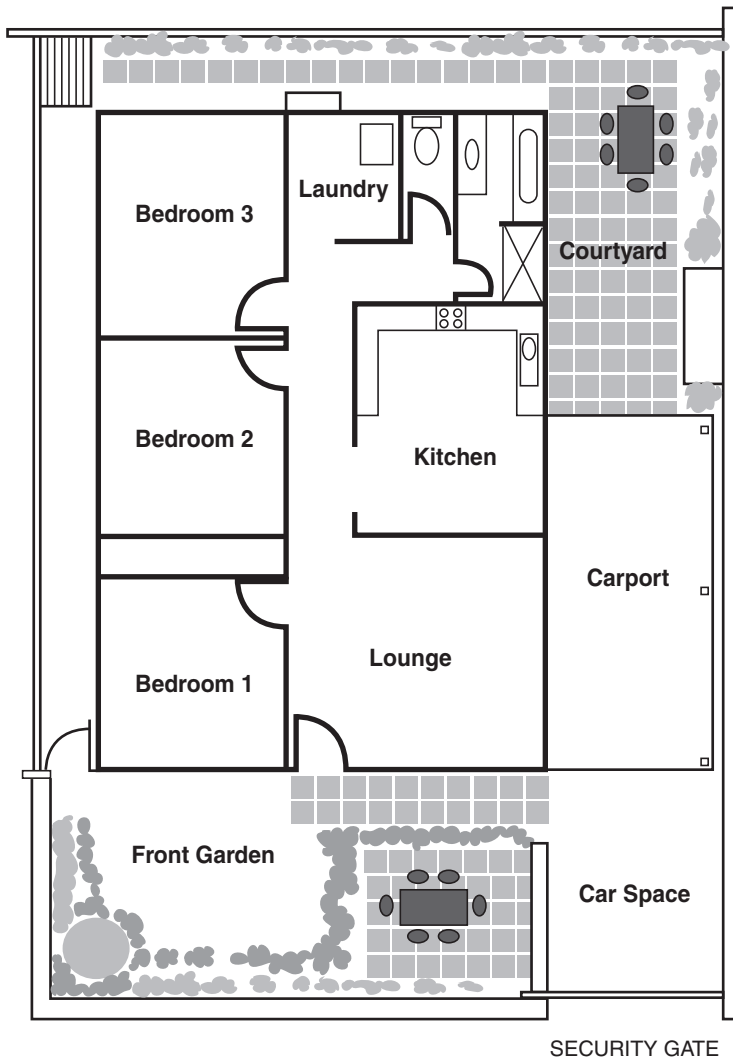
(a) $\frac{x}{10} = 8$

(a) [1]

(b) $11 = 3x - 1$

(b) [2]

9 This is a plan of a bungalow.

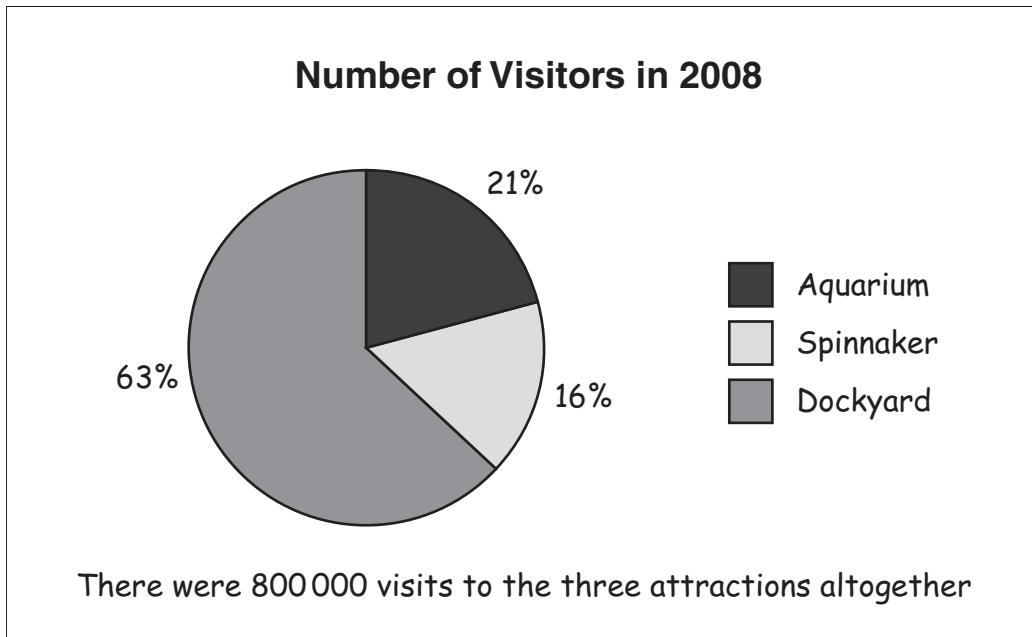


Scale: 1 cm to 2 m

What is the area of bedroom 3 in square metres?

.....m² [2]

10 Suki looks up the numbers of visitors to three attractions in Portsmouth and finds this pie chart.



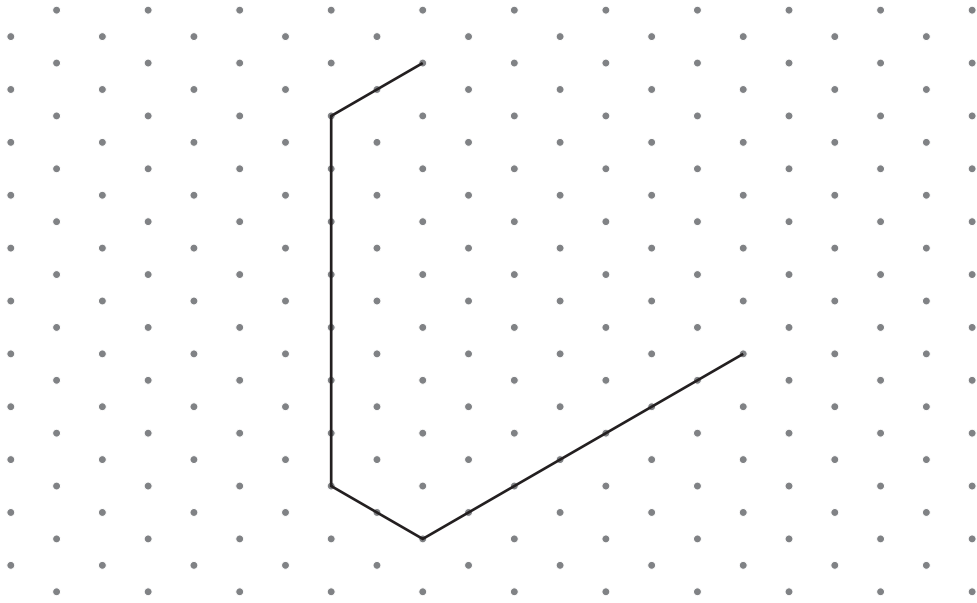
(a) Which attraction was the least popular?

(a) [1]

(b) How many people visited the Aquarium?

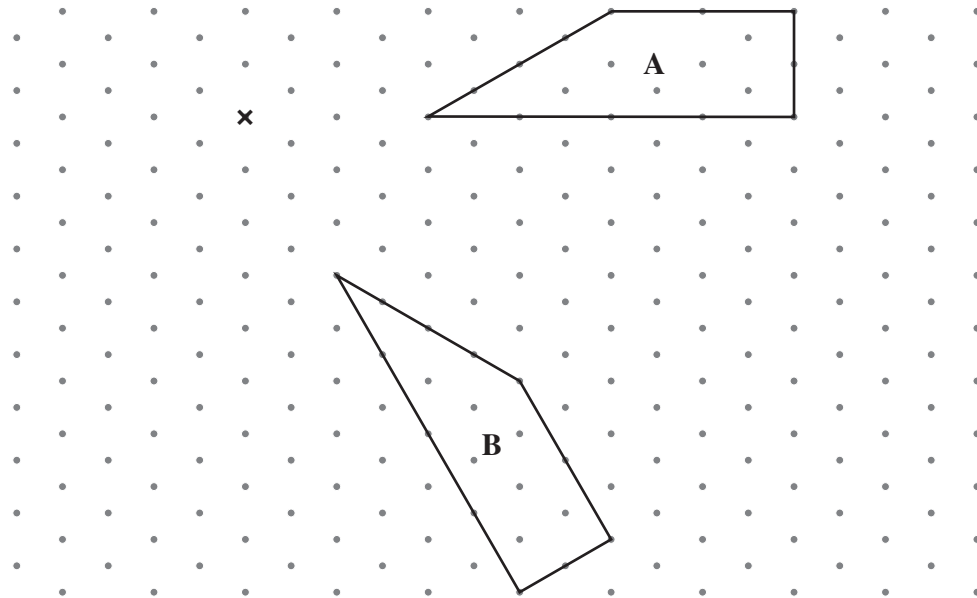
(b) [2]

- 11 (a) Complete this shape by drawing two straight lines so that the finished shape has rotation symmetry of order 3.



[2]

- (b) Shape A has been rotated clockwise to shape B
The centre of rotation is marked x.



What angle has shape A been rotated through to map onto shape B?

(b)^o [1]

12 (a) Work out.

(i) 5^3

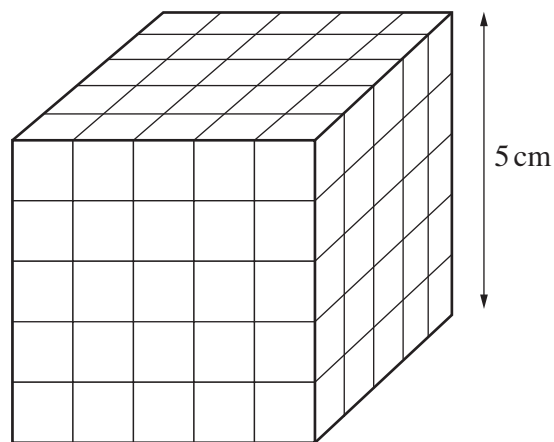
(a)(i) [1]

(ii) $\sqrt{10}$

Give your answer correct to 1 decimal place.

(ii) [2]

(b) Carla makes this cube using centimetre cubes.



(i) What is the volume of Carla's cube?

(b)(i)cm³ [1]

(ii) Carla wants to make a cuboid that is 1 cm longer and 1 cm higher but the same width as her cube.

How many centimetre cubes does Carla need to **add** to her cube to make this cuboid?

(ii) [3]

- 13 (a) Death Valley is a low-lying valley in the United States surrounded by mountains. Here is some information about Death Valley.

Highest temperature	58°C	Furnace Creek
Lowest temperature	-9°C	Furnace Creek
Highest point	4421 m above sea level	Mount Whitney
Lowest point	86 m below sea level	Badwater

- (i) How many metres is the top of Mount Whitney above Badwater?

(a)(i) m [1]

- (ii) As some climbers start to climb Mount Whitney the temperature is -2°C . The temperature at the top of Mount Whitney is 16°C lower than this.

What is the temperature at the top of Mount Whitney?

(ii) °C [1]

- (b) Here is some information about the depth, below sea level, of two of the lowest places in the UK.

Canvey Island	6 m below sea level
The Fens	4 m below sea level

What fraction is The Fens' depth of Canvey Island's depth?
Give your answer in its lowest terms.

(b) [2]

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