Candidate Forename		Candidate Surname	

Centre Number						Candidate Number				

OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION

B274B

MATHEMATICS C (GRADUATED ASSESSMENT)

MODULE M4 – SECTION B

THURSDAY 21 JANUARY 2010: Afternoon
DURATION: 30 minutes

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Geometrical instruments
Tracing paper (optional)
Electronic calculator

READ INSTRUCTIONS OVERLEAF

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INSTRUCTIONS TO CANDIDATES

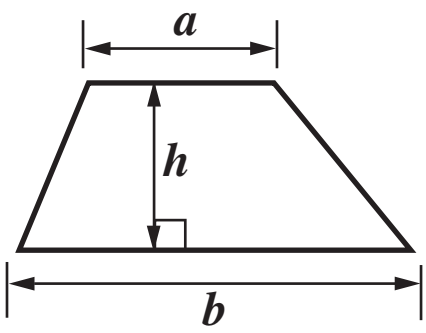
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **Answer ALL the questions.**
- **Write your answer to each question in the space provided, however additional paper may be used if necessary.**

INFORMATION FOR CANDIDATES

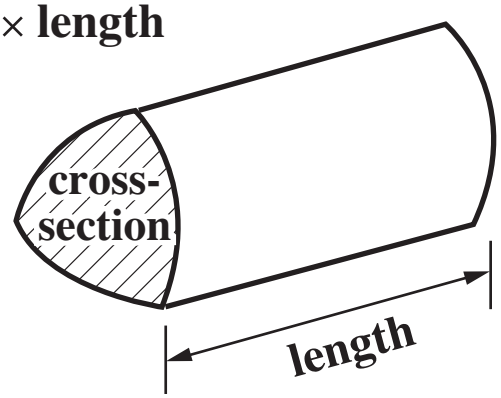
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**
- **Section B starts with question 8.**
- **You are expected to use a calculator in Section B of this paper.**

Formulae Sheet

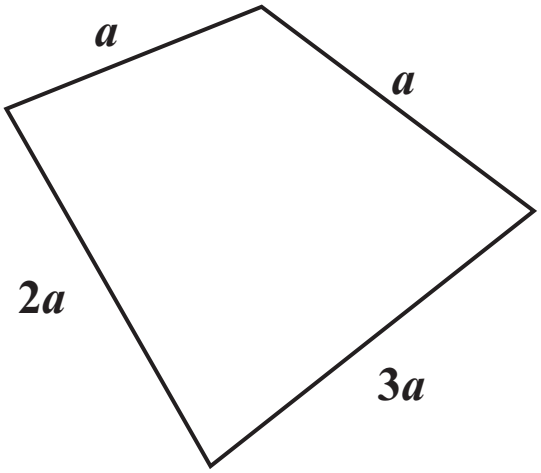
Area of trapezium $= \frac{1}{2}(a + b)h$



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

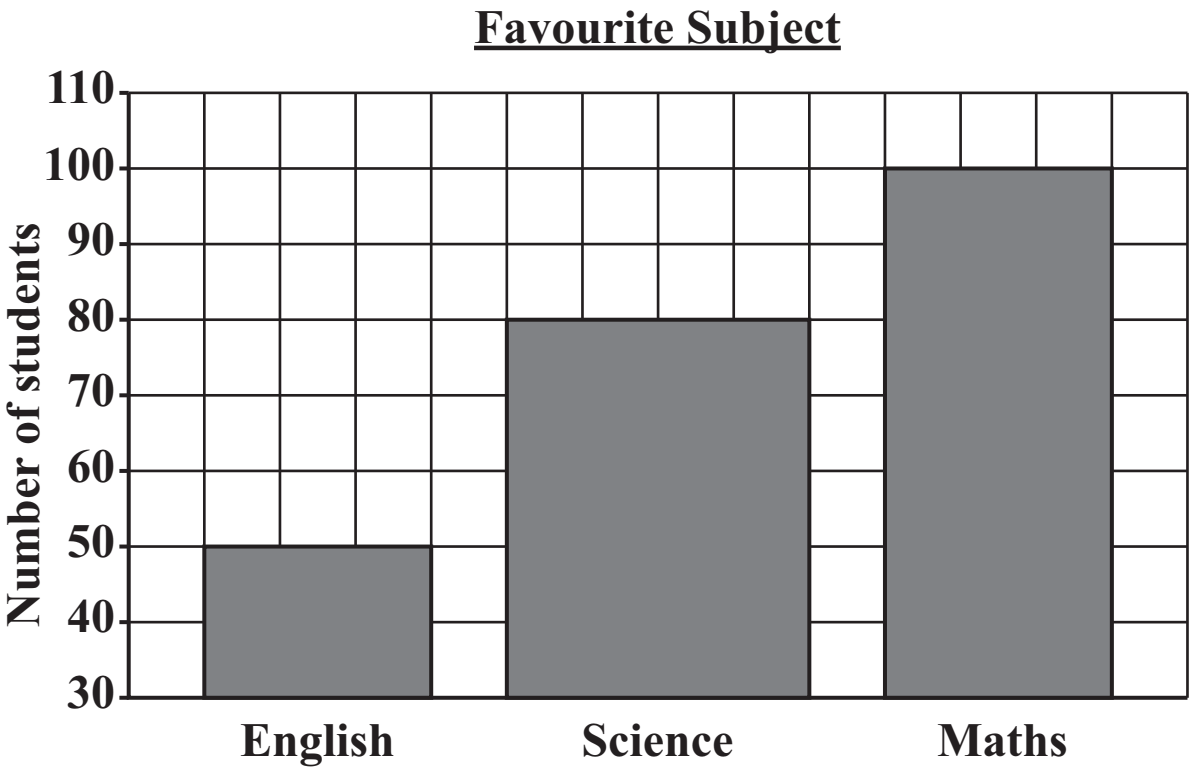


8 Write down a formula for the perimeter, P, of this shape.
[2 marks]



_____

9 Wayne asked some students what their favourite subject is. He drew this graph to show their answers.



Give two reasons why his graph is misleading.

1 _____

_____

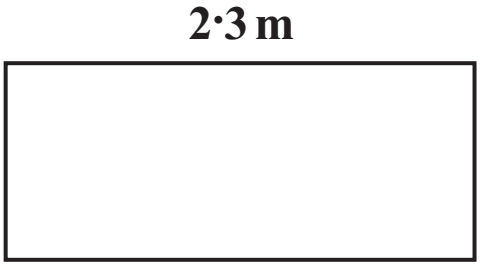
[1 mark]

2 _____

_____

[1 mark]

10 (a) Paul has a rectangular flower bed in his garden.



Not to scale

Calculate the area of the flower bed.
[2 marks]

(a) _____ m^2

(b) The area of Paul's lawn is 156 m^2.
Paul needs 30 g of lawn food for each square metre of lawn.

(i) Calculate how much lawn food Paul needs.
[2 marks]

(b)(i) _____g

(ii) Lawn food is only sold in 2 kg bags.
A 2 kg bag costs £2·75.

Calculate how much Paul pays for the lawn food.
[3 marks]

(ii) £ _____

(c) Paul's watering can holds 2 gallons.

<u>ROUGHLY</u> how many litres is this?
Put a ring round the correct answer.
[1 mark]

5 9 13 17 21

(d) Paul has a greenhouse in his garden.
The greenhouse is 4 metres long.

<u>ROUGHLY</u> how many feet is this?
[1 mark]

(d) _____

(e) Paul grows tomatoes.
He picks twelve tomatoes.
Here are the weights, in grams, of the tomatoes.

45 12 69 32 66 82 93 75 49 51 78 29

(i) Calculate the range of the weights.
[1 mark]

(e)(i) _____g

(ii) Calculate the mean weight.
[3 marks]

(ii) _____g

(iii) Emma also grows tomatoes.
The mean and range of the weights, in grams, of Emma's tomatoes are recorded in the table.

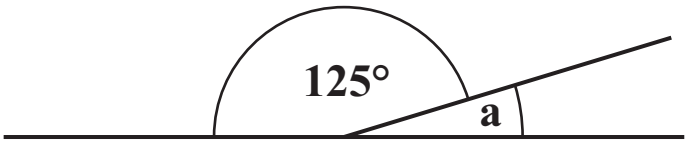
Mean	Range
59	74

Use this information to make one comparison between the weights of Emma's tomatoes and Paul's tomatoes.
[1 mark]

_____

_____

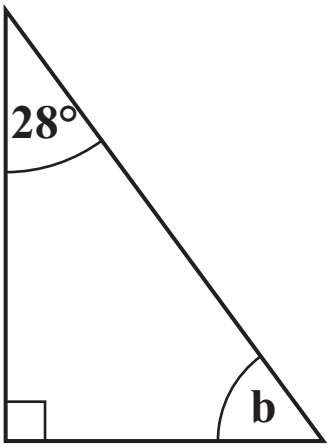
11 (a) Calculate angle *a*.
[1 mark]



Not to scale

(a) _____ °

(b) Calculate angle *b*.
[2 marks]



Not to scale

(b) _____ °

12 Robert makes a mixture of oil and petrol for trial bikes. He mixes 1 litre of oil with 50 litres of petrol.

(a) How much petrol should Robert mix with 2 litres of oil? [1 mark]

(a) _____ litres

(b) How much oil should Robert mix with 300 litres of petrol? [1 mark]

(b) _____ litres

13 Here are the first four numbers of a sequence.

29 24 20 17

(a) What is the next number in the sequence? [1 mark]

(a) _____

(b) Explain how you worked out your answer. [1 mark]

_____

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