

Candidate forename		Candidate surname	
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Centre number						Candidate number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

B275B

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M5 (SECTION B)

TUESDAY 21 JUNE 2011: 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)

Pie chart scale (optional)

Electronic calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

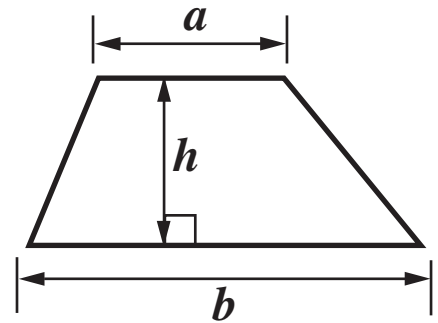
- **Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Show your working. Marks may be given for a correct method even if the answer is incorrect.**
- **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).**
- **Answer ALL the questions.**

INFORMATION FOR CANDIDATES

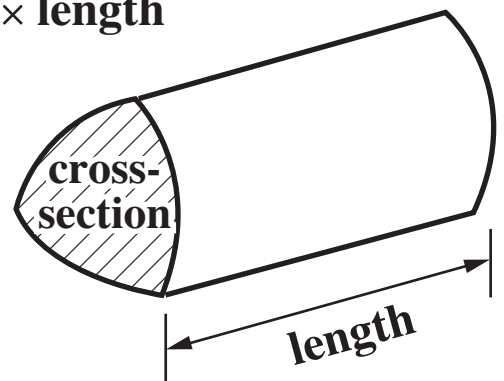
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **Section B starts with question 8.**
- **You are expected to use a calculator in Section B of this paper.**
- **The total number of marks for this Section is 25.**

FORMULAE SHEET

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



Volume of prism = (area of cross-section) \times length



8 Ruth and Joy grow potatoes.

They each weighed the first ten potatoes they dug up.

Here are the weights, in grams, of Ruth's potatoes.

160 182 195 180 74 106 210 167 170 83

(a) Calculate the range of these weights.

(a) _____ g [1]

(b) Calculate the mean weight of Ruth's potatoes.

(b) _____ g [3]

(c) For Joy's potatoes:

- the range was 160 g,**
- the mean was 145 g.**

(i) Joy says:

My potatoes weigh more than Ruth's.

Is Joy right? Explain how you decided.

_____ because _____
_____ [1]

(ii) Ruth says:

The weights of my potatoes are more consistent than Joy's.

Is Ruth right? Explain how you decided.

_____ because _____
_____ [1]

9 (a) $P = A + 2B$.

Find the value of P when $A = 3.1$ and $B = 2.7$.

(a) _____ [2]

(b) Simplify.

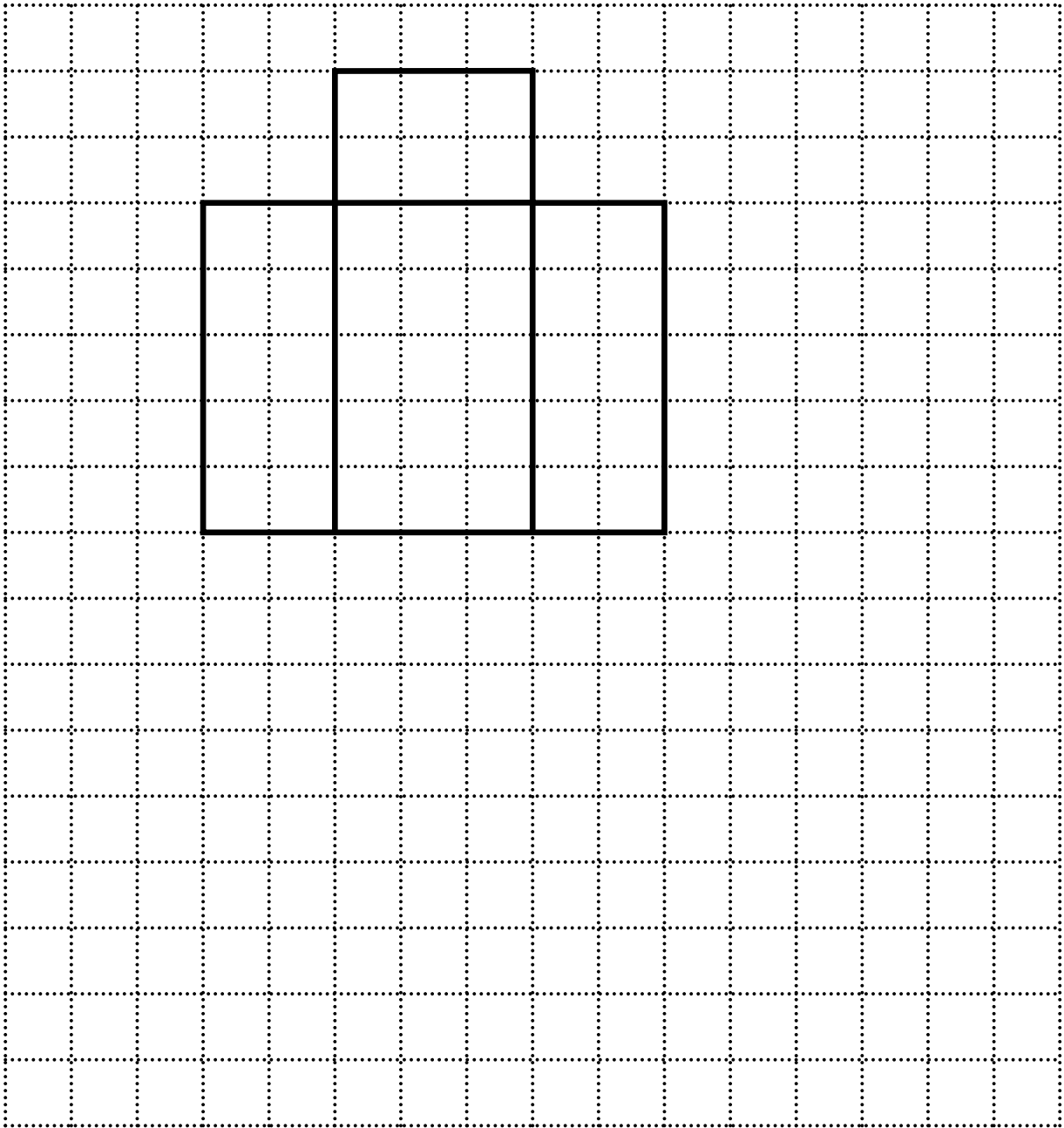
(i) $2c - c$

(b)(i) _____ **[1]**

(ii) $12x - 6 - 5x + 4$

(ii) _____ **[2]**

10 On this centimetre grid, the net of a cuboid has been started.



(a) Complete the net.

[2]

(b) Work out the volume of the cuboid.

(b) _____ cm^3 [2]

- 11 (a) In year 9 at Fairacres school there are 120 students. One day, 20% of these students are NOT in school. $\frac{2}{3}$ of those students who are in school are chosen to enter a maths challenge.**

How many year 9 students are chosen for the maths challenge?

(a) _____ [4]

- (b) For taking part in the challenge, students receive a Gold, Silver or Bronze award, or no award. This pie chart summarises the awards for the whole school.



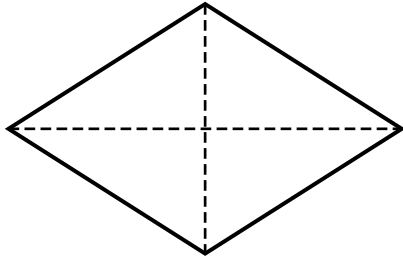
18 students received a Gold award.

How many students received a Bronze award?
Explain your reasoning.

_____ because _____

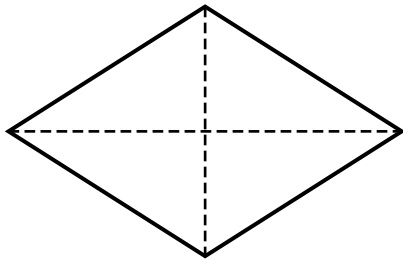
_____ [2]

- 12 (a) (i) Add shading to this shape so that it has no lines of symmetry but rotation symmetry of order 2.



[1]

- (ii) Add shading to this shape so that it has no lines of symmetry but rotation symmetry of order 1.



[1]

- (b) For each of these statements, write whether it is true or false for an ISOSCELES TRAPEZIUM.

	True / False
It has two sets of parallel sides.	_____
It has only one pair of equal angles.	_____
Its diagonals have equal length.	_____
Its diagonals bisect each other at right angles.	_____

[2]

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