

<b>Candidate Forename</b>		<b>Candidate Surname</b>	
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<b>Centre Number</b>						<b>Candidate Number</b>				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS  
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**B273A**

**MATHEMATICS C  
(GRADUATED ASSESSMENT)**

**MODULE M3 – SECTION A**

**MONDAY 21 JUNE 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)**

**WARNING**

**No calculator can be used for  
Section A of this paper.**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

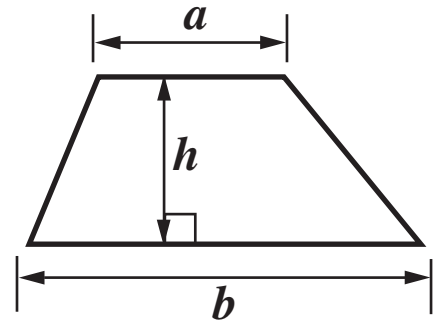
- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully and make sure that you know what you have to do before starting your answer.**
- **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. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).**

## **INFORMATION FOR CANDIDATES**

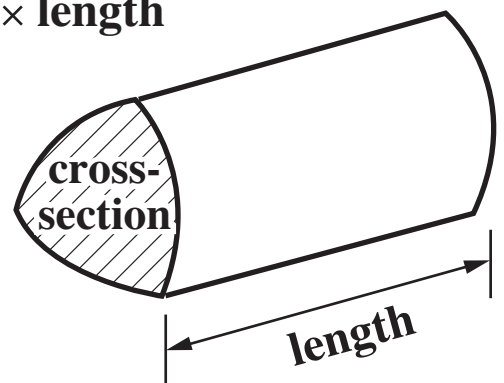
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

## FORMULAE SHEET

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



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



**1 Work out.**

**(a)  $128 \div 100$   
[1 mark]**

**(a)** \_\_\_\_\_

**(b)  $2.4 \times 3$   
[1 mark]**

**(b)** \_\_\_\_\_

**(c)  $6.5 \div 5$   
[1 mark]**

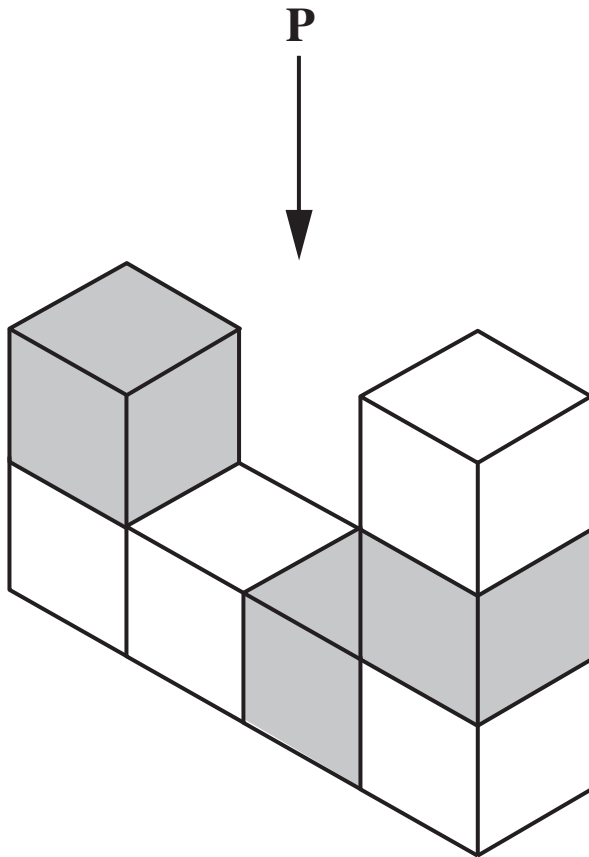
**(c)** \_\_\_\_\_

(d)  $\frac{3}{10}$  of 60

[2 marks]

(d) \_\_\_\_\_

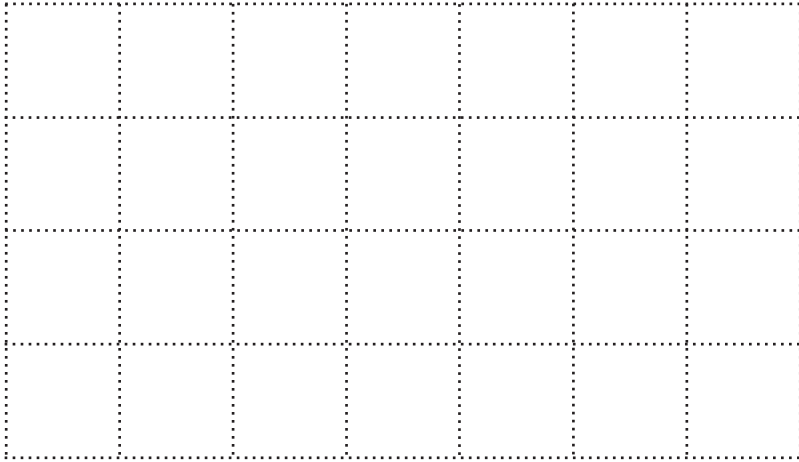
- 2 This solid is made from grey centimetre cubes and white centimetre cubes.  
There are no hidden cubes.**



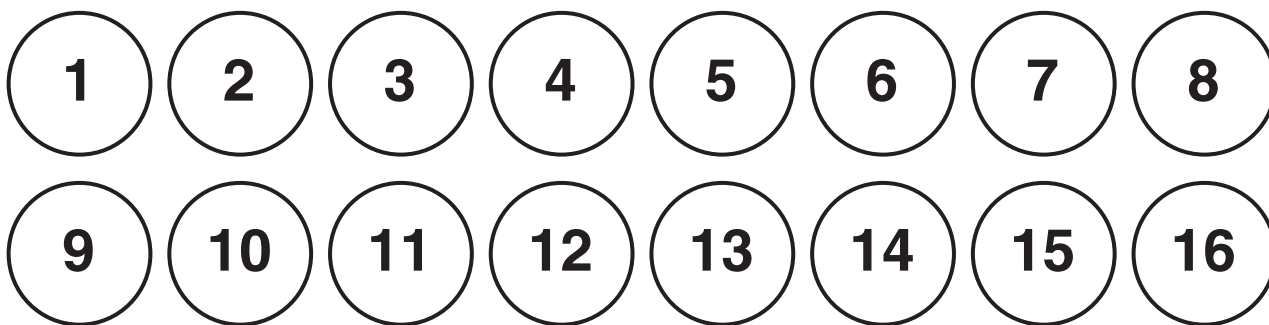
- (a) Complete.  
[1 mark]**

The solid is made from \_\_\_\_\_ grey  
cubes and \_\_\_\_\_ white cubes.

- (b) On the grid below, draw the view of the solid from P.  
Remember to show the shading.  
[2 marks]**



**3 A bag contains these 16 counters.**



**Stuart takes a counter from the bag without looking.**

**(a) Find the probability that he takes**



**[1 mark]**

**(a)** \_\_\_\_\_

**(b) Emily says:**

**Stuart is more likely to take a square number than a number in the 5 times table.**

**Is Emily correct?**

**Give a reason for your answer.**

**[1 mark]**

**Write Yes  
or No.**

\_\_\_\_\_ because \_\_\_\_\_  
\_\_\_\_\_



- 4 Naomi is planning her journey to a job interview. She will catch the train to Five Ways station then walk from the station to the interview.

Naomi needs to allow at least 15 minutes to walk from Five Ways station to the interview.  
Her interview is at 11:00 a.m.

- (a) What is the LATEST TIME she needs to arrive at Five Ways station?  
[1 mark]

(a) \_\_\_\_\_

- (b) Naomi will walk to Barnt Green station to catch the train.

The train timetable is shown below.

Barnt Green	09:08	09:38	10:08	10:38	11:08
Five Ways	09:28	09:58	10:28	10:58	11:28

Naomi allows 20 minutes to walk from home to Barnt Green station.

Complete this time plan for Naomi's journey to the interview.

[3 marks]

Leave home \_\_\_\_\_  
Train leaves Barnt Green \_\_\_\_\_  
Train arrives at Five Ways \_\_\_\_\_  
Interview **11:00** \_\_\_\_\_

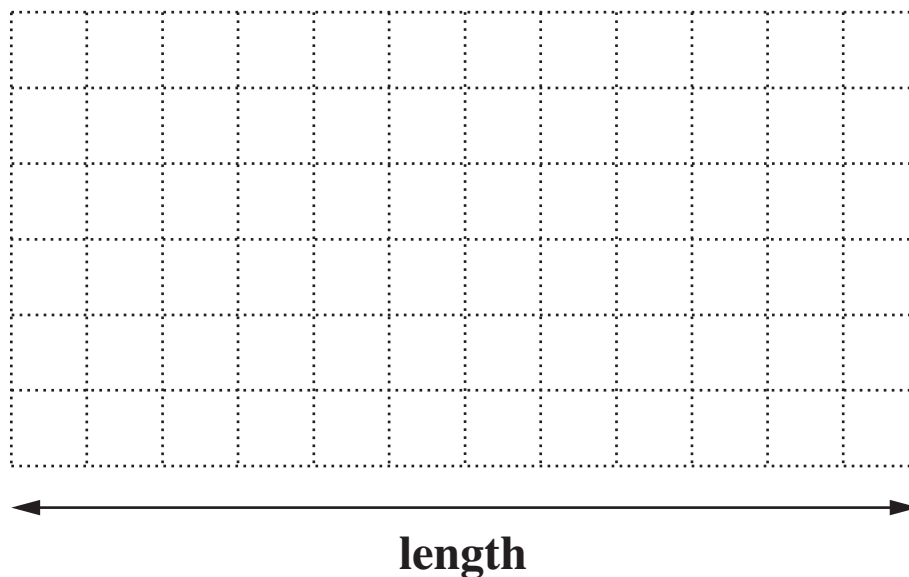
**5 Lucy has a part-time job.  
She is paid £6·20 per hour.**

**One weekend, Lucy works for 10 hours.  
She is paid her usual pay plus an extra 20% as a bonus.**

**Work out her TOTAL pay for the weekend.  
YOU MUST SHOW YOUR WORKING.  
[4 marks]**

**£ \_\_\_\_\_**

**6 Lian has this scale drawing of a playing field.**



**Scale: 1 cm to 20 m**

- (a) Lian calculates that the real length of the playing field is 120 m.  
He is wrong.**

**Explain why Lian is wrong.  
[2 marks]**

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- (b) A football pitch is to be marked out on the playing field.  
It will be a rectangle 100 m by 60 m.**

**Draw a possible position for the football pitch on the scale drawing above.  
Use the scale of 1 cm to 20 m.  
[2 marks]**

- 7 (a) The length of each side of a regular octagon is  $d$  cm. The perimeter,  $P$  cm, of the octagon can be found using this formula.

$$P = 8d$$

Find  $P$  when  $d = 3$ .  
[1 mark]

(a) \_\_\_\_\_

- (b) A triangle has base length  $b$  cm and height  $h$  cm. The area,  $A$  cm<sup>2</sup>, of the triangle can be found using this formula.

$$A = \frac{bh}{2}$$

Find  $A$  when  $b = 6$  and  $h = 5$ .  
[2 marks]

(b) \_\_\_\_\_

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