

Candidate forename						Candidate surname					
Centre number						Candidate number					

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**B275A**

**MATHEMATICS C**  
**(GRADUATED ASSESSMENT)**

**MODULE M5 – SECTION A**

**TUESDAY 1 MARCH 2011: Morning**

**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)

**WARNING**

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

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

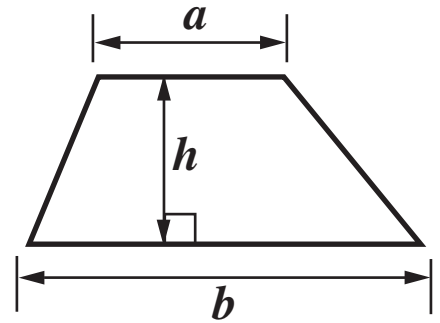
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **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.**

## **INFORMATION FOR CANDIDATES**

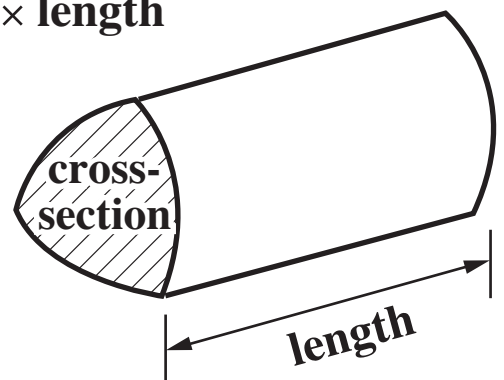
- **The number of marks is given in brackets [ ] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

## Formulae Sheet

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



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



**1 Work out.**

**(a)  $6^2$**   
**[1 mark]**

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

**(b) the cube of 4**  
**[1 mark]**

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

**(c)  $2 \times -5$**   
**[1 mark]**

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

**(d)  $-16 \div -2$**   
**[1 mark]**

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

- 2 Which of the offers below, A or B, gives the better discount?  
Explain how you decide. [2 marks]**

**OFFER A**

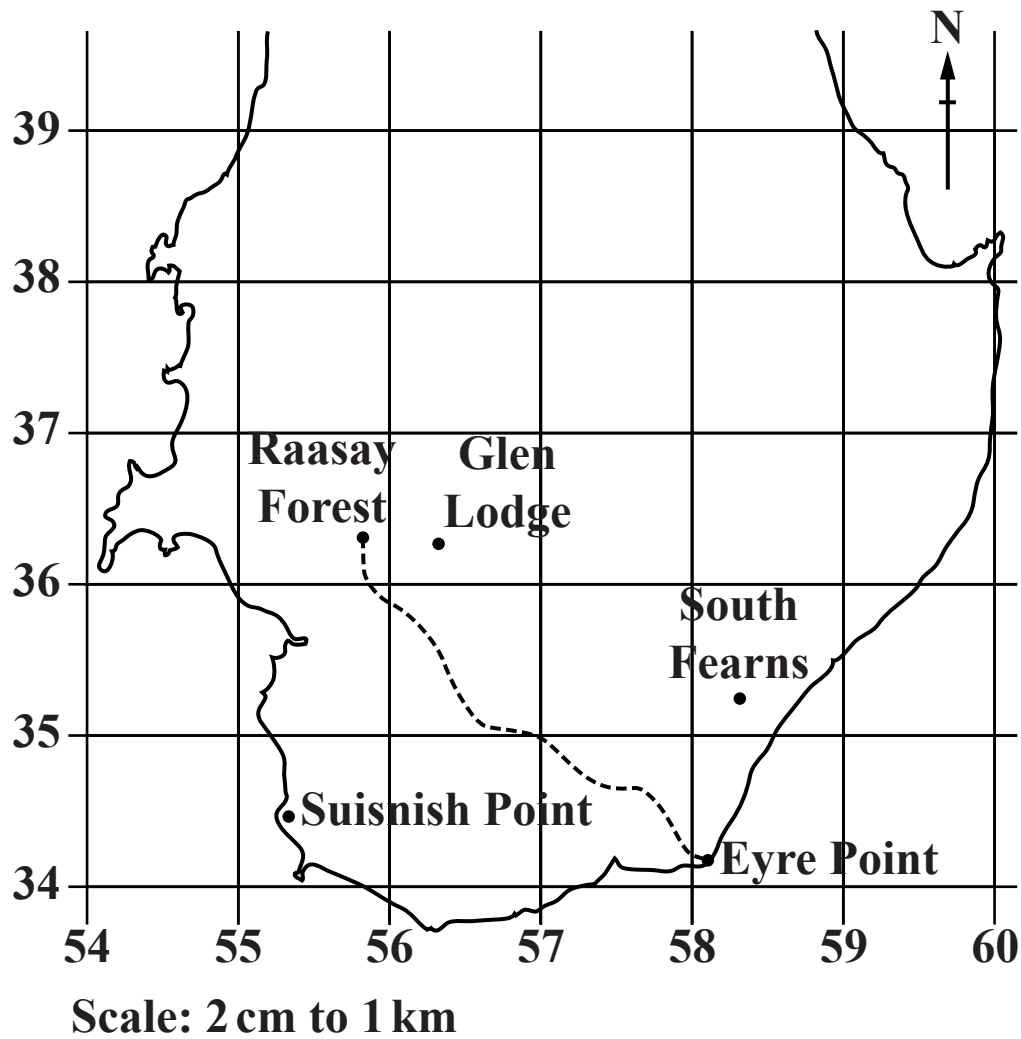
Save 15%  
off all purchases

**OFFER B**

$\frac{1}{4}$  off everything

**Offer \_\_\_\_\_ because \_\_\_\_\_**

**3 This map shows part of the Isle of Raasay.**



**(a) Write down the four-figure grid reference of South Fearn. [1 mark]**

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

**(b) Measure the bearing of Suisnish Point from Glen Lodge. [1 mark]**

**(b)** \_\_\_\_\_°

**(c) Eva walks from Raasay Forest to Eyre Point along the footpath (- - -).**

**The scale of the map is 2 cm to 1 km.**

**Estimate the distance she walks.**

**Give your answer in kilometres. [2 marks]**

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

- 4 Emily has a part-time job.  
She is paid £8.95 per hour.  
One week she works for 28 hours.**

- (a) Write down a calculation you can do in your head  
to ESTIMATE Emily's total pay for the week.  
[2 marks]**

\_\_\_\_\_ = £ \_\_\_\_\_

- (b) Is your answer bigger or smaller than the exact answer?  
Explain how you know. [1 mark]**



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

**5 Solve.**

**(a)  $\frac{x}{5} = 2$**

**[1 mark]**

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

**(b)  $2x + 5 = 13$**

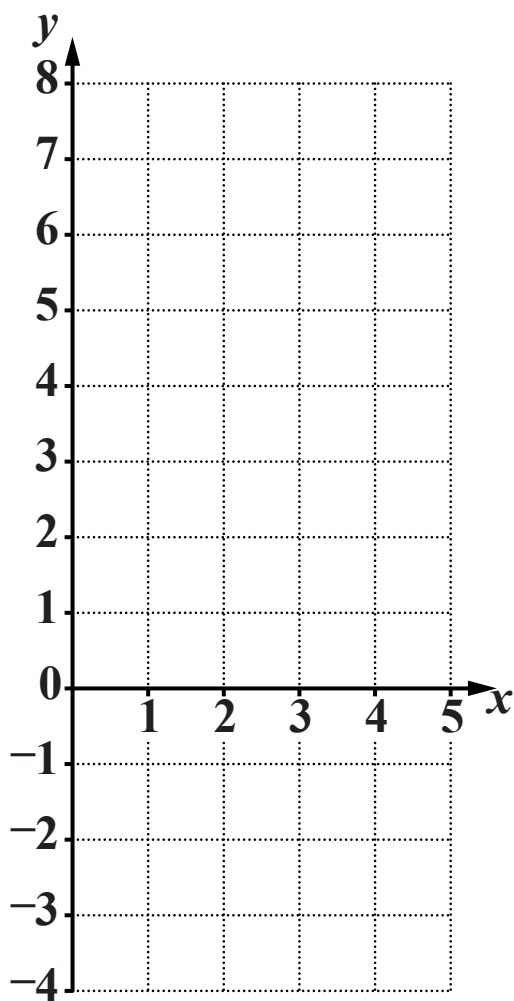
**[2 marks]**

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

- 6 (a) Complete this table for  $y = 2x - 3$ . [1 mark]**

<u><math>x</math></u>	<b>0</b>	<b>2</b>	<b>4</b>
<u><math>y</math></u>		<b>1</b>	

- (b) Draw the graph of  $y = 2x - 3$ . [2 marks]**



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**7 Karl runs football training sessions on Tuesday and Friday evenings.**

**He records the number of people attending the training sessions for a period of ten weeks.**

**(a) Here are the numbers of people attending each Tuesday training session.**

**18    25    19    15    27    13    22    23    24    15**

**(i) Find the median. [2 marks]**

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

**(ii) Find the range. [1 mark]**

**(ii) \_\_\_\_\_**

**(b) For the Friday training sessions:**

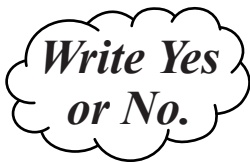
- the median attendance was 24,
- the range of the attendances was 13.

**Karl says:**

**The attendance on Fridays was more varied.**

**Is he correct?**

**Explain how you know. [1 mark]**



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

- 8 Use ruler and compasses only in this question.  
Leave in all your construction lines.**

**In the space below, construct an equilateral triangle with sides of 7 cm.**

**One side has been drawn for you. [2 marks]**



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