

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**

B275A

**MATHEMATICS C
(GRADUATED ASSESSMENT)**

MODULE M5 (SECTION A)

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)

WARNING

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

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

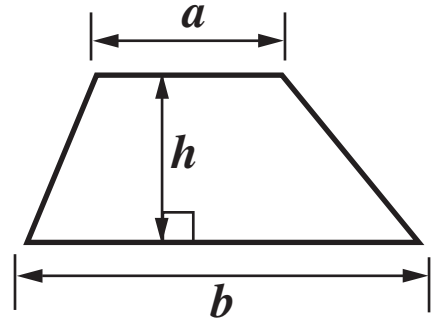
- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. Pencil may be used for graphs and diagrams only.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**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

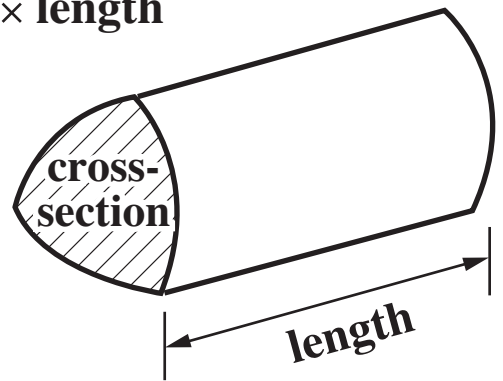
- **The number of marks is given in brackets [] at the end of each question or part question.**
- **The total number of marks for this Section is 25.**

FORMULAE SHEET

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



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



1 (a) A football stadium seats 49 017 people.

How many people is this, correct to 1 significant figure?

(a) _____ [1]

(b) One day, the football club supporters' shop sold £3497.52 of goods.

How much is this, correct to the nearest hundred pounds?

(b) £ _____ [1]

(c) For one match, 28 937 tickets were sold at £22 each.

ESTIMATE the total amount of money for these ticket sales.

Show the estimates you use.

(c) _____ × _____ = £ _____ [2]

- 2 (a) (i) Which two of the fractions in this list are equivalent?

$$\frac{3}{4}$$

$$\frac{5}{8}$$

$$\frac{24}{40}$$

$$\frac{7}{10}$$

$$\frac{15}{24}$$

(a)(i) _____ and _____ [2]

- (ii) Work out.

$$5 \times \frac{2}{7}$$

Give your answer as a mixed number.

(ii) _____ [2]

(b) Work out.

$$3^4$$

(b) _____ **[2]**

3 Solve.

(a) $x + 7 = 5$

(a) _____ **[1]**

(b) $9 = 4x + 3$

(b) _____ **[2]**

- 4 Jenny has two fair ordinary dice numbered from 1 to 6. She throws them and adds the numbers shown to get the total.

(a) Complete this table to show the possible totals.

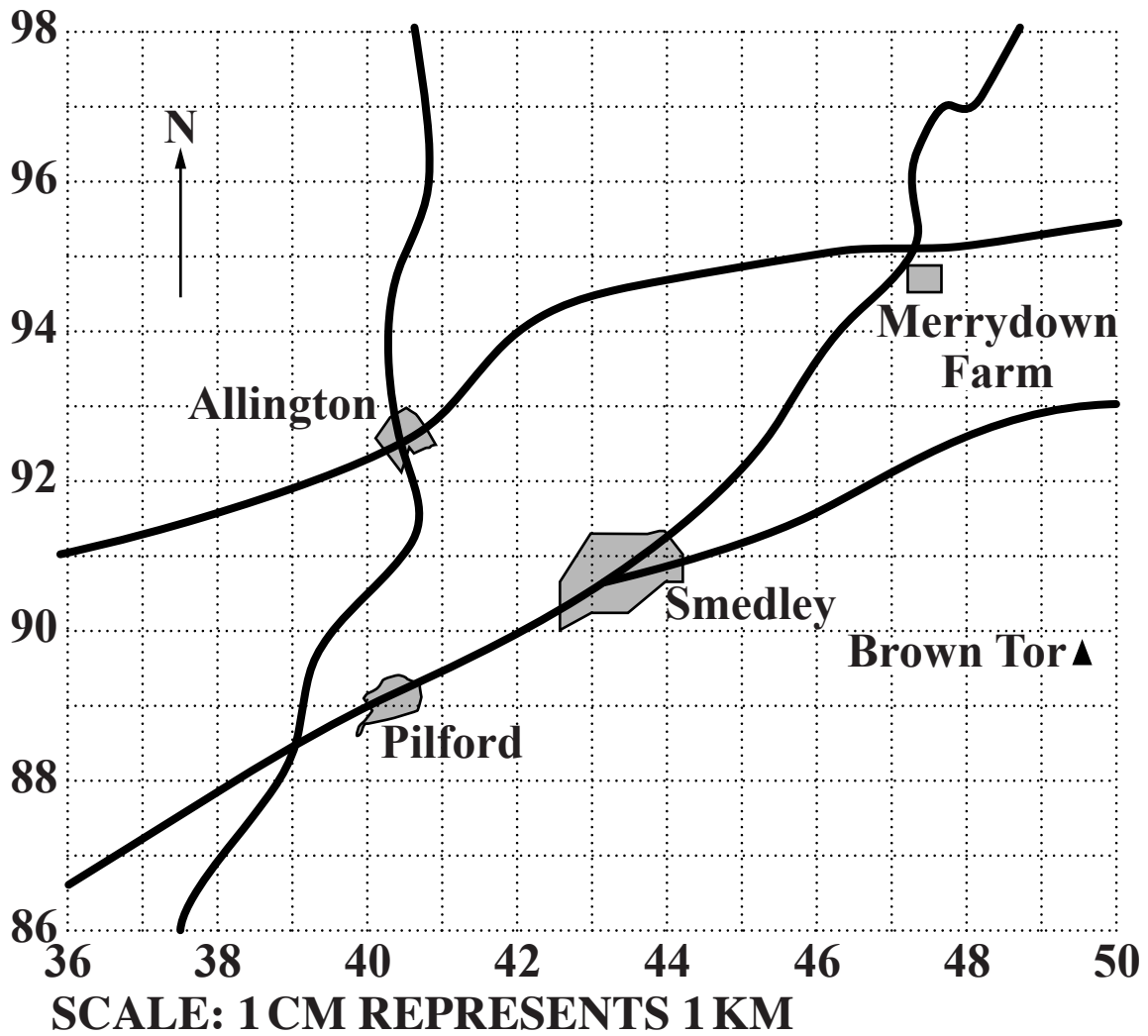
		First dice					
		+	1	2	3	4	5
Second dice	1	2	3	4	5	6	7
	2	3	4	5	6		
	3	4	5	6	7		
	4	5	6	7	8		
	5						
	6						

[1]

(b) What is the probability that Jenny obtains a total of 7 when she throws the two dice?

(b) _____ [2]

5 Use the map below to answer the questions that follow.



(a) What is the name of the village which has four-figure grid reference 4092?

(a) _____ [1]

(b) Matthew works at Merrydown Farm.

(i) What is the four-figure grid reference for Merrydown Farm?

(b)(i) _____ [1]

(ii) Matthew lives at Pilford.

Estimate how far Matthew travels to work at Merrydown Farm.

(ii) _____ km [1]

(c) Measure the bearing of Brown Tor (▲) from the crossroads by Merrydown Farm.

(c) _____ ° [1]

- 6 Using ruler and compasses only, construct an equilateral triangle with side 6.5 cm.
Leave in your construction lines.
One side of the triangle has been drawn for you.**



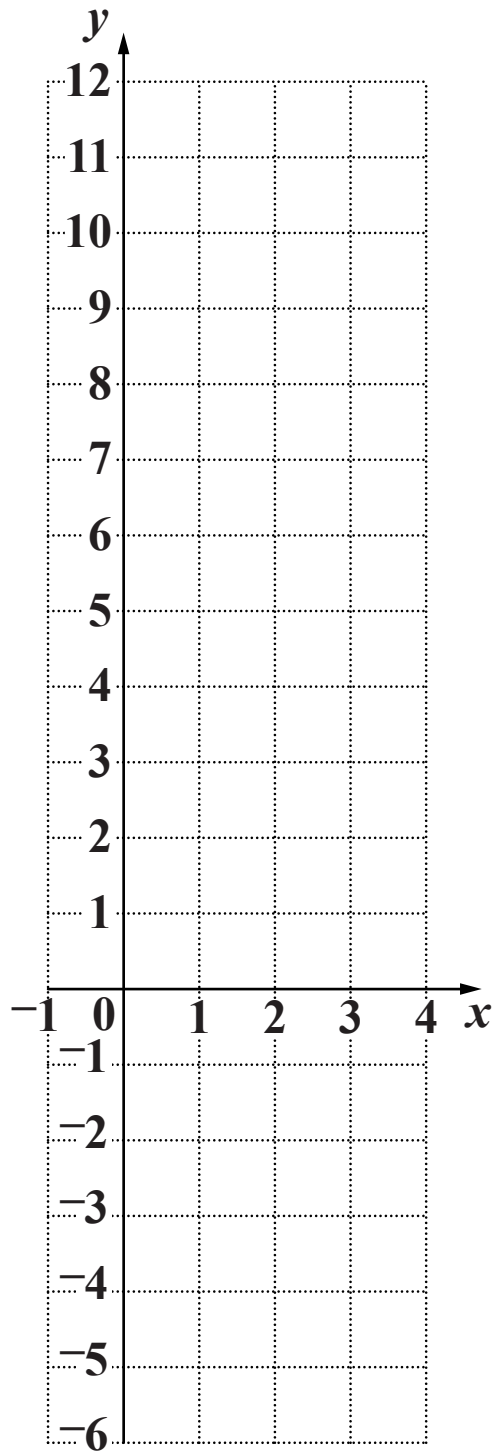
[2]

- 7 (a) Complete this table for $y = 3x - 2$.**

x	-1	0	1	2	3	4
y			1	4	7	

[1]

(b) Draw the graph of $y = 3x - 2$ for values of x from -1 to 4 .



[2]



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