

Centre No.						Paper Reference						Surname	Initial(s)		
Candidate No.						5	5	4	3	H	/	11	B	Signature	

Paper Reference(s)

**5543H/11B**

**Edexcel GCSE**

**Mathematics B (Modular) – 2544**

Paper 11 – Section B (Non-Calculator)

**Higher Tier**

Unit 3 Test

Thursday 8 March 2007 – Afternoon

Time for Section B: 30 minutes



Examiner's use only

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Team Leader's use only

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**Materials required for examination**

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.  
Tracing paper may be used.

**Items included with question papers**

Nil

**Instructions to Candidates**

In the boxes above, write your centre number, candidate number, your surname, initials and signature. Check that you have the correct question paper.

Answer ALL the questions. Write your answers in the spaces provided in this question paper.

**You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.**

If you need more space to complete your answer to any question, use additional answer sheets.

**Information for Candidates**

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2).

This section has 9 questions. The total mark for this section is 25. The total mark for this paper is 50.

There are 8 pages in this question paper. Any blank pages are indicated.

**Calculators may be used for Section A only.**

**Advice to Candidates**

Show all stages in any calculations.

Work steadily through the paper. Do not spend too long on one question.

If you cannot answer a question, leave it and attempt the next one.

Return at the end to those you have left out.

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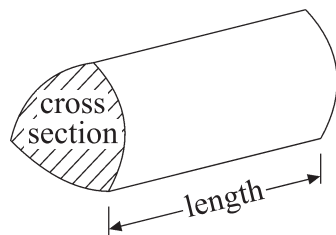
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**GCSE Mathematics (Modular) 2544**

Formulae: Higher Tier

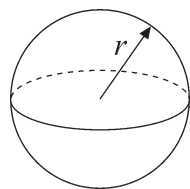
**You must not write on this formulae page.  
Anything you write on this formulae page will gain NO credit.**

**Volume of a prism** = area of cross section  $\times$  length



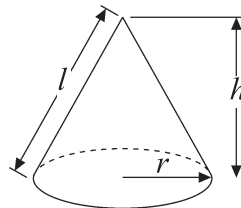
**Volume of sphere** =  $\frac{4}{3}\pi r^3$

**Surface area of sphere** =  $4\pi r^2$

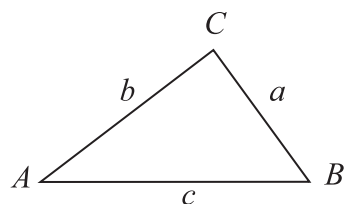


**Volume of cone** =  $\frac{1}{3}\pi r^2 h$

**Curved surface area of cone** =  $\pi r l$



**In any triangle ABC**



**The Quadratic Equation**

The solutions of  $ax^2 + bx + c = 0$   
where  $a \neq 0$ , are given by

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

**Sine Rule**  $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

**Cosine Rule**  $a^2 = b^2 + c^2 - 2bc \cos A$

**Area of triangle** =  $\frac{1}{2}ab \sin C$



Leave  
blank

**SECTION B**

**Answer ALL NINE questions.**

**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

**You must NOT use a calculator for this section.**

1. (a) Simplify  $4e \times 3f$

.....  
(1)

(b) Factorise  $5x + 15$

.....  
(1)

(c) Simplify  $2(r + 3) + 3(2r + 1)$

.....  
(2)

(Total 4 marks)

Q1

2. Work out  $147.6 \div 0.24$   
You **must** show all your working.

.....  
(Total 3 marks)

Q2



Leave blank

3. Here are the first five terms of an arithmetic sequence.

3    7    11    15    19

(a) Find, in terms of  $n$ , an expression for the  $n$ th term of the sequence.

.....  
(2)

Laura says that 412 is a term in this arithmetic sequence.  
Laura is wrong.

(b) Explain why.

.....  
(1)

(Total 3 marks)

Q3

4.

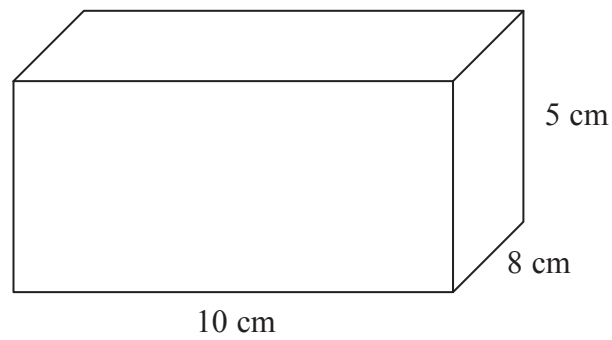


Diagram NOT accurately drawn

The diagram shows a solid cuboid.  
The cuboid has length 10 cm, width 8 cm and height 5 cm.

The cuboid is made of wood.  
The wood has a density of 0.6 grams per  $\text{cm}^3$ .

Work out the mass of the cuboid.

..... grams

(Total 4 marks)

Q4



<p>5. (a) Write 431 000 in standard form.</p> <p>..... (1)</p> <p>(b) Write <math>6.2 \times 10^{-3}</math> as an ordinary number.</p> <p>..... (1)</p> <p>(Total 2 marks)</p>	<p>Leave blank</p> <p><b>Q5</b></p> <input type="text"/>
<p>6. Write down the value of</p> <p>(a) <math>7^0</math></p> <p>..... (1)</p> <p>(b) <math>4^{-1}</math></p> <p>..... (1)</p> <p>(Total 2 marks)</p>	<p><b>Q6</b></p> <input type="text"/>
<p>7. Expand and simplify <math>(3x - 5)(x + 1)</math></p> <p>.....</p> <p>(Total 2 marks)</p>	<p><b>Q7</b></p> <input type="text"/>



8. Express the recurring decimal  $0.1\dot{2}\dot{6}$  as a fraction.

Leave  
blank

.....  
(Total 3 marks)

Q8

9. Write as a single fraction  $\frac{4}{x(x+3)} + \frac{5}{(x+3)}$

.....  
(Total 2 marks)

Q9

**TOTAL FOR SECTION B : 25 MARKS**

**TOTAL FOR PAPER : 50 MARKS**

**END**



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