Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	5	4	2	H	/	9	A	Signature	

Paper Reference(s)

5542H/9A

Edexcel GCSE

Mathematics B (Modular) – 2544

Paper 9 – Section A (Calculator)

Higher Tier

Unit 2 Test

Thursday 8 March 2007 – Morning

Time for Section A: 20 minutes

Examiner's use only

Team Leader's use only

Section	Leave Blank
A	
B	

Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. 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 4 questions. The total mark for this section is 15. The total mark for this paper is 30.
There are 8 pages in this question paper. Any blank pages are indicated.
Calculators may be used for Section A only.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

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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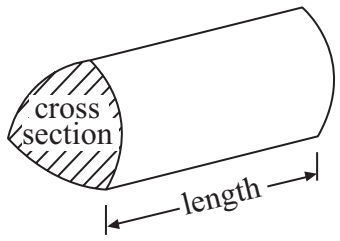
GCSE Mathematics (Modular) 2544

Formulae: Higher Tier

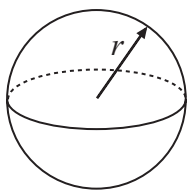
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



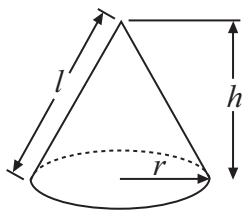
Volume of sphere $= \frac{4}{3}\pi r^3$

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

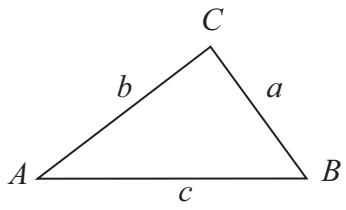


Volume of cone $= \frac{1}{3}\pi r^2 h$

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 A

Answer ALL FOUR questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. A spinner can land on Red or White or Blue.
The table shows the probability that the spinner will land on Red or on White.

Colour	Red	White	Blue
Probability	0.3	0.25	

(a) Work out the probability that the spinner will land on Blue.

.....

(2)

Sam is going to spin the spinner 200 times.

(b) Work out an estimate for the number of times the spinner will land on Red.

.....

(2) **Q1**

(Total 4 marks)

Leave blank

2. The table shows some information about the areas of 50 gardens.

Area of garden (A m^2)	**Number of gardens (f)**		
$0 < A \leqslant 20$	4		
$20 < A \leqslant 40$	7		
$40 < A \leqslant 60$	10		
$60 < A \leqslant 80$	22		
$80 < A \leqslant 100$	7		

Calculate an estimate for the mean area of these gardens.

..... m^2

(Total 4 marks)

Q2

Leave blank

3. Mrs Green wants to find out how often people visit her sports centre.
She uses a questionnaire.

(a) Design a suitable question for her questionnaire to find out how often people visit her sports centre.
You must include some response boxes.

(2)

The sports centre has 5000 members.
Their ages are from 10 years to 60 years.

The table shows some information about these members.

Age (years)	Number of males	Number of females
10 to 16	1500	1300
17 to 25	600	400
26 to 40	750	200
41 to 60	150	100

Mrs Green takes a sample of 200 of the 5000 members.
Her sample is stratified by both age and gender.

(b) Calculate the number of males aged from 26 years to 40 years in her sample.

.....

(2)
(Total 4 marks)

Q3

Leave blank

4. The table shows the number of pairs of shoes sold in a shop each month from July to December.

July	August	September	October	November	December
248	255	235	260	261	298

(a) Work out the 3-point moving averages for this information.
The first one has been worked out for you.

246 , ... , ... , ...

(2)

(b) What do your moving averages in part (a) tell you about the sale of shoes from July to December?

.....

.....

(1)

Q4

(Total 3 marks)

TOTAL FOR SECTION A: 15 MARKS

END

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