

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

Paper Reference(s)

5542H/9B

Edexcel GCSE

Mathematics B (Modular) – 2544

Paper 9 – Section B (Non-Calculator)

Higher Tier

Unit 2 Test

Monday 18 June 2007 – Morning

Time for Section B: 20 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 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.

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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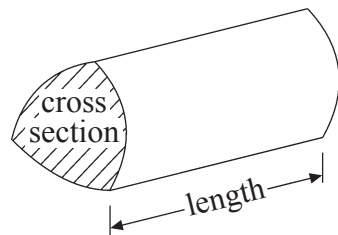
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GCSE Mathematics (Modular) 2544

Formulae: Higher Tier

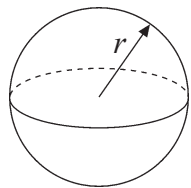
**You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.**

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



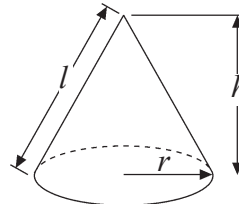
Volume of sphere = $\frac{4}{3}\pi r^3$

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

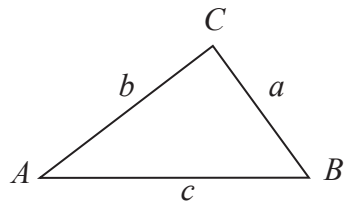


Volume of cone = $\frac{1}{3}\pi r^2 h$

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 = $\frac{1}{2}ab \sin C$



SECTION B

Answer ALL FOUR questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

You must NOT use a calculator for this section.

1. Toby wants to find out how many text messages people send.

He uses this question on a questionnaire.

How many text messages have you sent on your mobile phone?			
0 – 10	10 – 20	20 – 30	30 or more

- (a) Write down **two** things wrong with this question.

1

.....

2

.....

(2)

Toby also wants to find out how much time people spend talking on their mobile phones.

- (b) Design a suitable question Toby could use for his questionnaire.
You must include some response boxes.

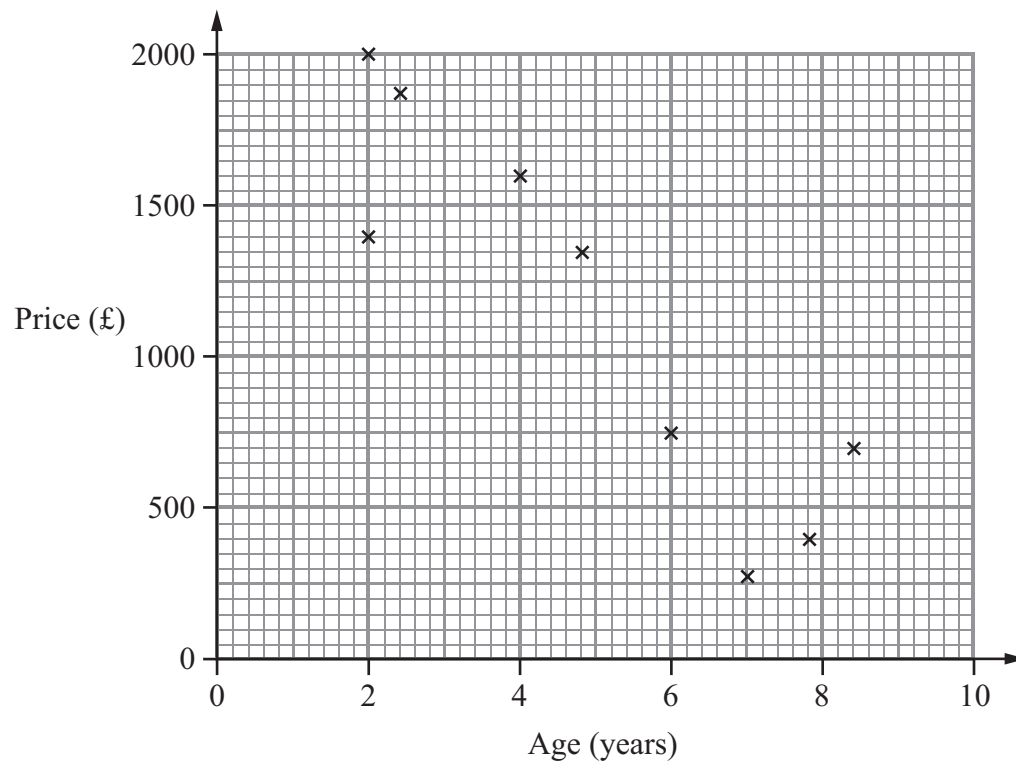
(2)
(Total 4 marks)

Q1



Leave blank

2. A garage sells motorcycles.
The scatter graph shows information about the price and age of the motorcycles.



The table shows the age and price of four more motorcycles.

Age (years)	6	9	3	5
Price (£)	1000	200	1700	1000

- (a) On the scatter graph, plot the information from the table. (2)
- (b) What type of correlation does the scatter graph show?
..... (1)
- (c) Draw a line of best fit on the scatter graph. (1)
- Mae buys a motorcycle from this garage for £1500
- (d) Use your line of best fit to estimate the age of the motorcycle.
..... years (1)

Q2

(Total 5 marks)



Leave
blank

3. 80 people work in Joe's factory.
The table shows some information about the annual pay of these 80 workers.

Annual pay (£ x)	Number of workers
$10\,000 < x \leq 14\,000$	32
$14\,000 < x \leq 16\,000$	24
$16\,000 < x \leq 18\,000$	16
$18\,000 < x \leq 20\,000$	6
$20\,000 < x \leq 40\,000$	2

- (a) Write down the modal class interval.

.....
(1)

- (b) Find the class interval that contains the median.

.....
(1)

(Total 2 marks)

Q3



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