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

Paper Reference(s)

5543H/11A

Edexcel GCSE

Mathematics B (Modular) – 2544

Paper 11 – Section A (Calculator)

Higher Tier

Unit 3 Test

Monday 18 June 2007 – Afternoon

Time for Section A: 30 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 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.
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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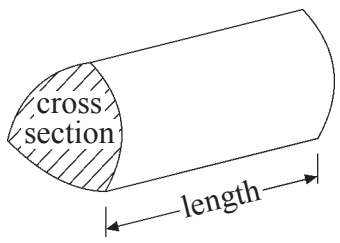
GCSE Mathematics (Modular) 2544

Formulae: Higher Tier

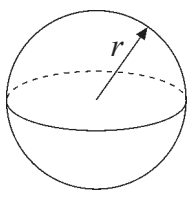
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



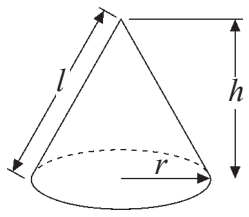
Volume of sphere $= \frac{4}{3}\pi r^3$

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

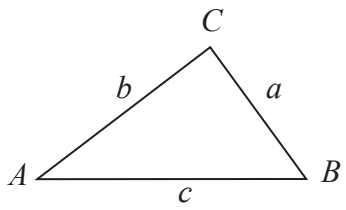


Volume of cone $= \frac{1}{3}\pi r^2 h$

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



In any triangle ABC



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

The Quadratic Equation

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

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

Leave blank

SECTION A

Answer ALL NINE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1.

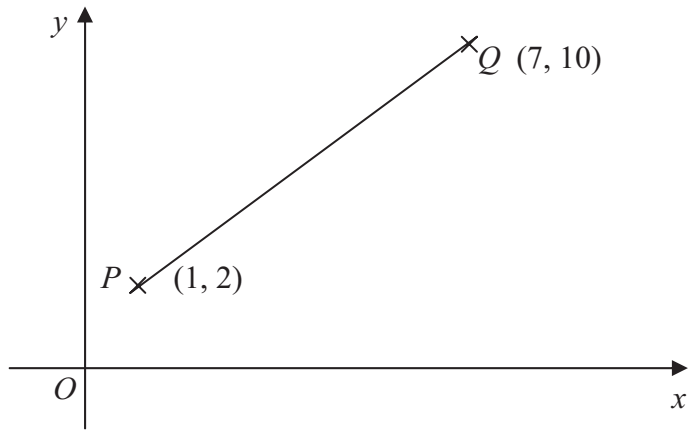


Diagram **NOT** accurately drawn

P has coordinates (1, 2)
Q has coordinates (7, 10)

Find the coordinates of the mid-point of the line *PQ*.

(..... , ...)

(Total 2 marks)

Q1

2. Joe travelled 60 miles in 1 hour 30 minutes.

Work out Joe's average speed.
Give your answer in miles per hour.

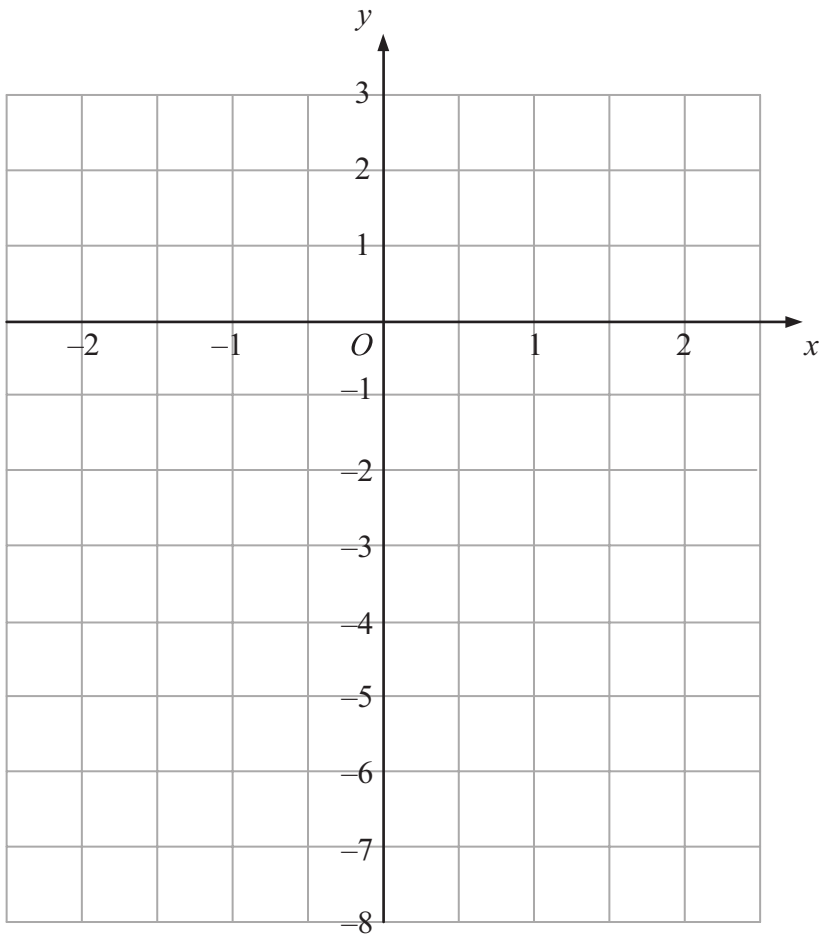
..... miles per hour

(Total 2 marks)

Q2

Leave blank

3.



On the coordinate grid, draw the graph of $y = 2x - 3$
Use values of x from -2 to $+2$

Q3

(Total 3 marks)

Leave blank

4. (a) Find the Highest Common Factor (HCF) of 24 and 36

.....

(1)

(b) Write 96 as a product of its prime factors.

.....

(2)

Q4

(Total 3 marks)

5. Use your calculator to work out $\dfrac{\sqrt{13.2-6.8}}{3.25+4.9}$

Write down all the figures on your calculator display.

.....

Q5

(Total 2 marks)

Leave blank

6. (a) Factorise $8p - 6$

.....

(1)

(b) Factorise completely $y^3 - y^2$

.....

(2)

(c) Expand and simplify $(e + 3)(e + 4)$

.....

(2) **Q6**

(Total 5 marks)

7. Here is a triangular prism.

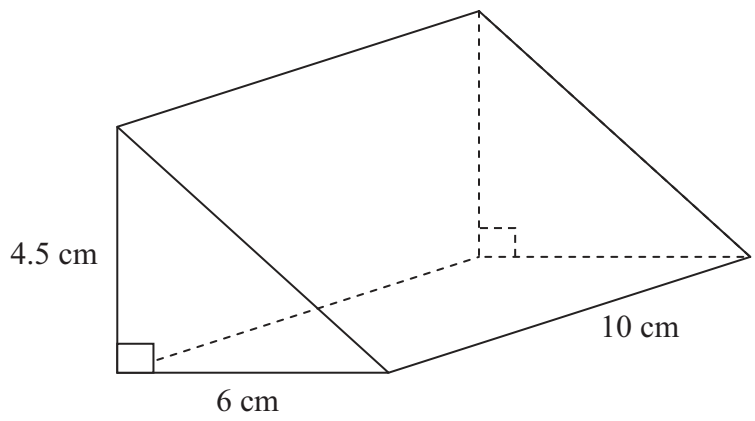


Diagram **NOT** accurately drawn

Calculate the volume of the prism.

..... cm^3 **Q7**

(Total 3 marks)

Leave blank

8. Simplify $\dfrac{x^2+5x+6}{x+2}$

.....

Q8

(Total 3 marks)

9. Prove that $(n+2)^2 - (n-2)^2 = 8n$ for all values of n.

Q9

(Total 2 marks)

TOTAL FOR SECTION A: 25 MARKS

END

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