

Centre No.						Paper Reference						Surname	Initial(s)		
Candidate No.						5	5	4	0	H	/	4	H	Signature	

Paper Reference(s)

5540H/4H

Edexcel GCSE

Mathematics A (Linear) – 2540

Paper 4 (Calculator)

Higher Tier

Monday 2 June 2008 – Afternoon

Time: 1 hour 45 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, 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).

There are 25 questions in this question paper. The total mark for this paper is 100.

There are 28 pages in this question paper. Any blank pages are indicated.

Calculators may be used.

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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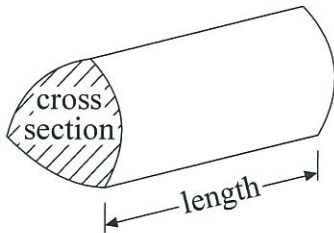
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GCSE Mathematics (Linear) 2540

Formulae: Higher Tier

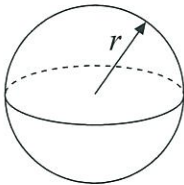
**You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.**

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



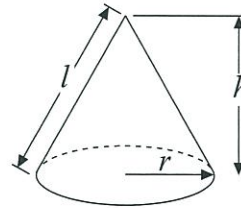
Volume of sphere = $\frac{4}{3}\pi r^3$

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

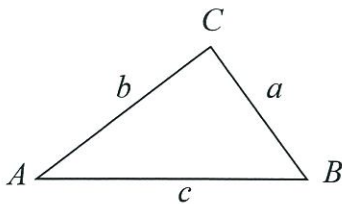


Volume of cone = $\frac{1}{3}\pi r^2 h$

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



Answer ALL TWENTY FIVE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. There are 3 red pens, 4 blue pens and 5 black pens in a box. Sameena takes a pen, at random, from the box.

(a) Write down the probability that she takes a black pen.

$$P(\text{Black}) = \frac{5}{3+4+5} = \frac{5}{12}$$

$$\frac{5}{12}$$

(2)

(b) Write down the probability that Sameena takes a pen that is **not** black.

$$P(\text{not black}) = P(\text{Red or Blue})$$

$$= \frac{3+4}{12} = \frac{7}{12}$$

$$\frac{7}{12}$$

Alternatively, $P(\text{not black}) = 1 - P(\text{black}) = 1 - \frac{5}{12} = \frac{7}{12}$ (1)

(Total 3 marks)

Q1

2. Use your calculator to work out

$$\frac{22.4 \times 14.5}{8.5 \times 3.2}$$

Write down all the figures on your calculator display.

$$11.9417647$$

(Total 2 marks)

Q2

