

Centre No.						Paper Reference					Surname	Initial(s)		
Candidate No.						1	3	8	0	/	4	H	Signature	

Paper Reference(s)

**1380/4H**

# Edexcel GCSE

**Mathematics (Linear) – 1380**

**Paper 4 (Calculator)**

## Higher Tier

Friday 14 November 2011 – Morning

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 28 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  $\pi$  button, take the value of  $\pi$  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.

Lots more free papers at

<http://bland.in>

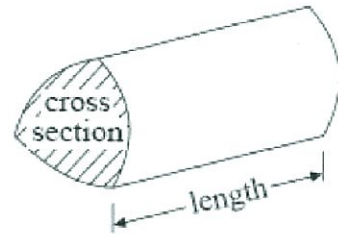
*Turn over*

## GCSE Mathematics (Linear) 1380

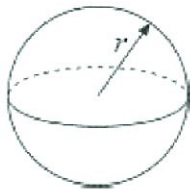
### Formulae: Higher Tier

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

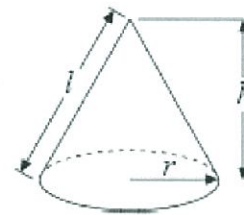
**Volume of prism** = area of cross section  $\times$  length



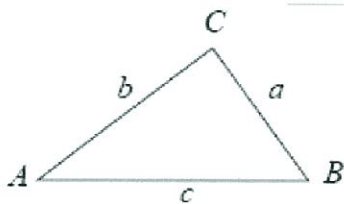
**Volume of sphere**  $\frac{4}{3} \pi r^3$   
**Surface area of sphere** =  $4\pi r^2$



**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. (a) Use your calculator to work out

$$\frac{\sqrt{21.5}}{5.8 - 2.36}$$

Write down all the figures on your calculator display.

$$\frac{1.347909665}{(2)}$$

- (b) Write down your answer to part (a) correct to 2 decimal places.

$$\frac{1.35}{(1)}$$

(Total 3 marks)

- 
2. Ishmal invested £3500 for 3 years at 2.5% per annum **simple interest**.

Work out the total amount of interest Ishmal earned.

$$\frac{2.5}{100} \times 3500 \times 3$$
$$= 87.5 \times 3 = \pounds 262.50$$

$$\pounds \frac{262.50}{\dots\dots\dots}$$

(Total 3 marks)

3. Gary wants to find out how much time teenagers spend listening to music. He uses this question on a questionnaire.

How many hours do you spend listening to music?			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1 to 5	5 to 10	10 to 20	over 20

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

- 1 It does not include the period of time over which the question is to be applied.
- 2 Overlapping class intervals and no option for those who do not spend any time listening to music.

(2)

- (b) Design a better question for Gary's questionnaire to find out how much time teenagers spend listening to music.

How many hours per week on average would you estimate you spend listening to music?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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None    1 to 5    6 to 10    11 to 15    16 to 20    Over 20

(2)

(Total 4 marks)