

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

Paper Reference(s)

**1380/3H**

# Edexcel GCSE

**Mathematics (Linear) – 1380**

Paper 3 (Non-Calculator)

## Higher Tier

Tuesday 9 November 2010 – 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.  
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 must not be used.**

### 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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*Turn over*

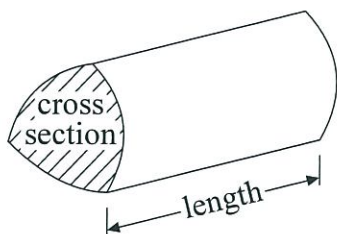
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GCSE Mathematics (Linear) 1380

Formulae: Higher Tier

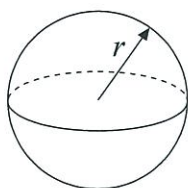
**You must not write on this formulae page.  
Anything you write on this formulae page will gain NO credit.**

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



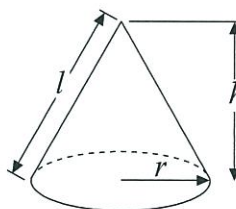
**Volume of sphere** =  $\frac{4}{3}\pi r^3$

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

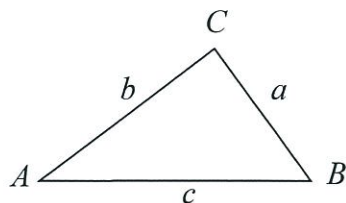


**Volume of cone** =  $\frac{1}{3}\pi r^2 h$

**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 EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator.

1. A box contains milk chocolates and dark chocolates only.  
The number of milk chocolates to the number of dark chocolates is in the ratio 2 : 1

There are 24 milk chocolates.

Work out the total number of chocolates.

Let  $x$  = total no. of chocolates.

Then  $\frac{2x}{3} = 24$

$\Rightarrow x = \frac{24 \times 3}{2} = \frac{72}{2} = \underline{36}$

ALTERNATIVELY:

2 : 1

$\equiv 24 : 12$  (Multiplying both sides by 12)

$\Rightarrow$  Total no. of chocolates is given by  
 $24 + 12 = 36$

36

(Total 2 marks)

Q1

2. (a) Simplify  $p \times p \times p \times p$

$p^4$

(1)

- (b) Simplify  $2c \times 3d$

$6cd$

(1)

(Total 2 marks)

Q2

