

Centre No.						Paper Reference						Surname	Initial(s)	
Candidate No.						5	3	8	3	H	/	1	0	Signature

Paper Reference(s)

**5383H/10**

**Edexcel GCSE**

**Mathematics (Modular) – 2381**

**Paper 10 (Calculator)**

**Higher Tier**

**Unit 2 Stage 2**

**Monday 13 June 2011 – Afternoon**

**Time: 30 minutes**

Examiner's use only

--	--	--

Team Leader's use only

--	--	--



**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 9 questions in this question paper. The total mark for this paper is 25.

There are 8 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.

This publication may be reproduced only in accordance with Edexcel Limited copyright policy.  
©2011 Edexcel Limited.

Printer's Log. No.

**P38946A**

W850/R5383H/57570 6/6/6/6



P 3 8 9 4 6 A 0 1 0 8

*Turn over*

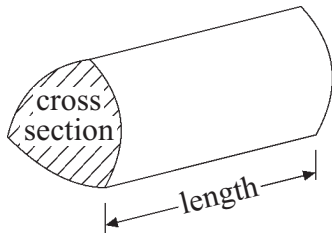
**edexcel**   
advancing learning, changing lives

## GCSE Mathematics 2381

Formulae: Higher Tier

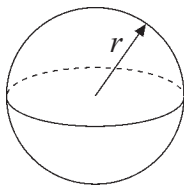
**You must not write on this formulae page.**  
**Anything you write on this formulae page will gain NO credit.**

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



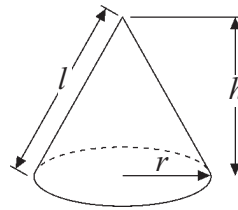
**Volume of sphere** =  $\frac{4}{3}\pi r^3$

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

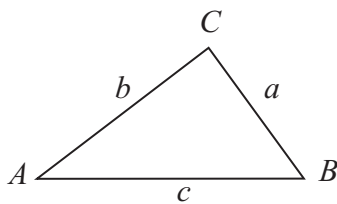


**Volume of cone** =  $\frac{1}{3}\pi r^2 h$

**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 NINE questions.**

**Write your answers in the spaces provided.**

**You must write down all stages in your working.**

1. Simplify  $4a + 3b + 2a - 7b$

Q1

.....  
(Total 2 marks)

2. Hasan is a salesman.  
Each week he is paid £400 plus 7.5% of his weekly sales.  
Last week, his weekly sales were £3600

Work out how much Hasan was paid last week.

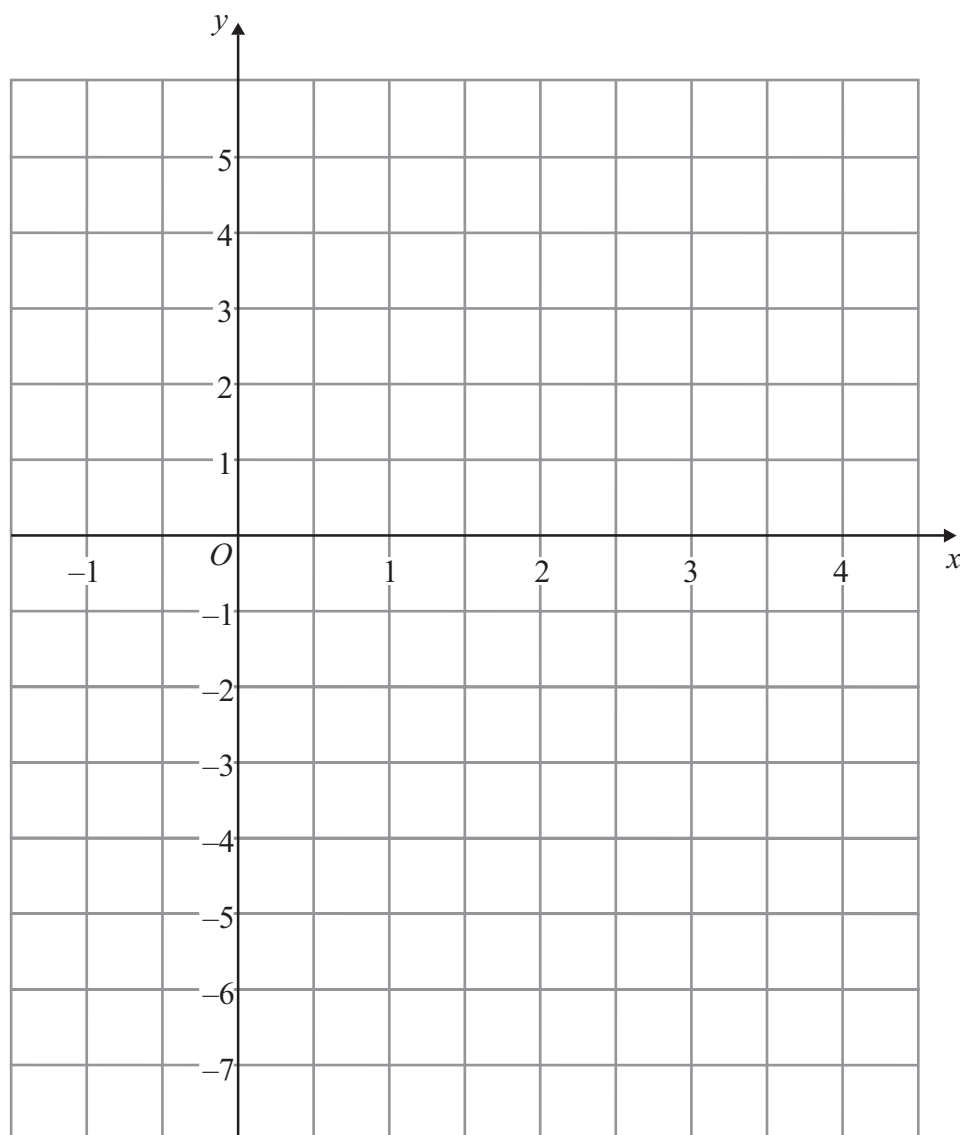
Q2

£ .....

(Total 3 marks)



3. On the grid, draw the graph of  $y = 2x - 4$  for values of  $x$  from  $x = -1$  to  $x = 4$



Q3

(Total 3 marks)



4.

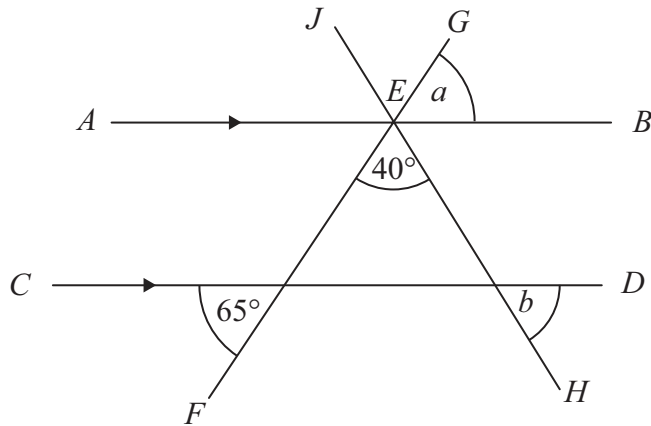


Diagram **NOT**  
accurately drawn

*FG* and *HJ* are straight lines which cross at *E*.  
The lines *AEB* and *CD* are parallel.

(a) (i) Write down the size of angle *a*.

.....<sup>o</sup>

(ii) Give reasons for your answer.

.....  
.....

(2)

(b) Work out the size of angle *b*.

.....<sup>o</sup>  
.....

(2)

(Total 4 marks)

Q4



Leave  
blank

5. (a) Expand and simplify  $(x + 5)(x - 2)$

.....  
(2)

(b) Factorise  $a^2 - 25b^2$

.....  
(1)

Q5

(Total 3 marks)

6. Work out  $(2.7 \times 10^6) \times (2.85 \times 10^3)$

Give your answer in standard form.

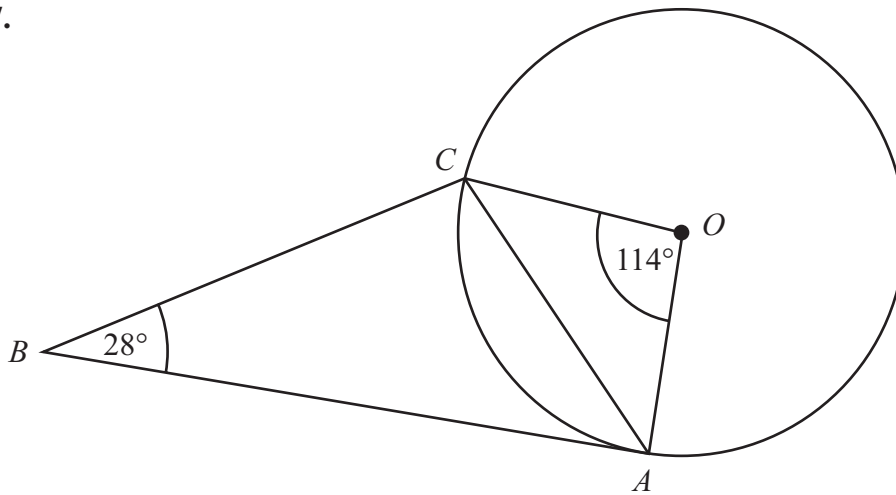
.....  
(Total 2 marks)

Q6



7.

Diagram **NOT**  
accurately drawn



$A$  and  $C$  are points on the circumference of a circle, centre  $O$ .  
 $BA$  is a tangent to the circle.

Angle  $ABC = 28^\circ$   
Angle  $AOC = 114^\circ$

Work out the size of angle  $ACB$ .

.....<sup>o</sup>  
(Total 3 marks)

Q7



Leave  
blank

Q8

Q9

8. Prove algebraically that the recurring decimal  $0.\dot{2}\dot{8}$  can be written as the fraction  $\frac{28}{99}$

(Total 2 marks)

9. Write  $\frac{5}{x+1} - \frac{2}{x-1}$  as a single fraction in its simplest form.

.....  
(Total 3 marks)

TOTAL FOR PAPER: 25 MARKS

END

