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

Paper Reference(s)

5383H/10

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 10 (Calculator)

Higher Tier

Unit 2 Stage 2

Monday 15 November 2010 – Afternoon

Time: 30 minutes

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 8 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 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.

Printer's Log. No.
N37730A
W850/R5383H/57570 6/6/6/6

N 3 7 7 3 0 A 0 1 0 8

Turn over

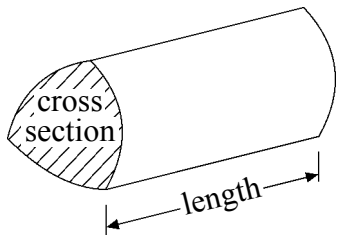
edexcel
advancing learning, changing lives

GCSE Mathematics 2381

Formulae: Higher Tier

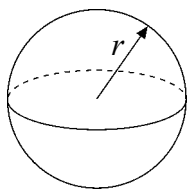
You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Volume of a prism = area of cross section × length



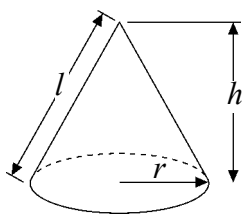
Volume of sphere $= \frac{4}{3}\pi r^3$

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

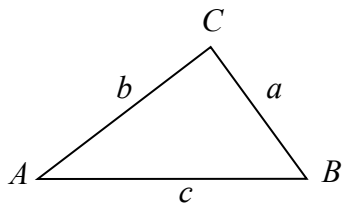


Volume of cone $= \frac{1}{3}\pi r^2 h$

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

Answer ALL EIGHT 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

$$\frac{13.23 \times 5.58}{5.21 \times 4.27}$$

Write down all the figures on your calculator display.
You must give your answer as a decimal.

.....

(2)

(b) Round your answer to part (a) to 1 significant figure.

.....

(1) **Q1**

(Total 3 marks)

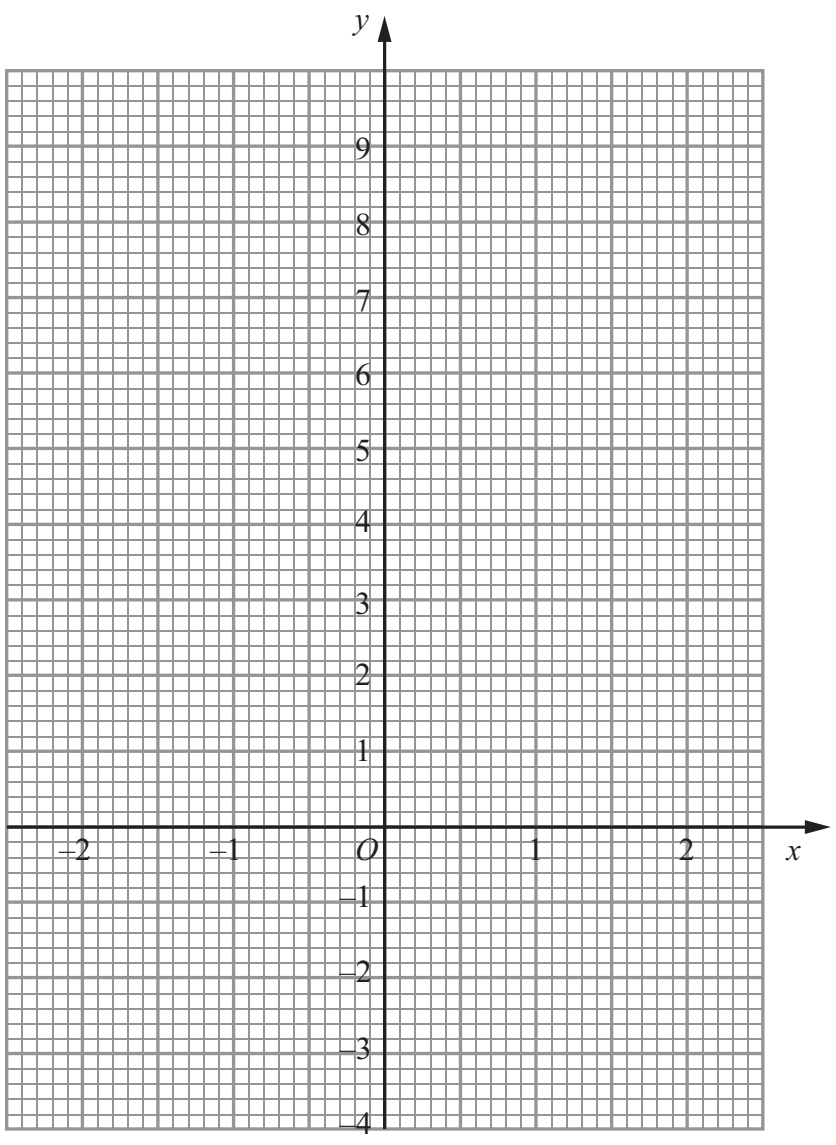
Leave blank

2. (a) Complete the table of values for $y = 3x + 3$

x	–2	–1	0	1	2
y	–3			6	

(2)

(b) On the grid, draw the graph of $y = 3x + 3$



(2)

Q2

(Total 4 marks)

Leave blank

3.

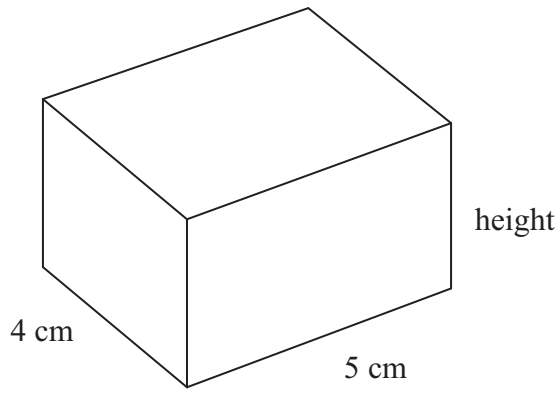


Diagram **NOT** accurately drawn

This cuboid has a width of 4 cm and a length of 5 cm.

The volume of the cuboid is 60 cm^3.

(a) Work out the height of the cuboid.

..... cm
(2)

The cuboid is a solid made from copper.

The mass of the cuboid is 534 g.

(b) Work out the density of copper.

..... g/cm^3
(2)

Q3

(Total 4 marks)

Leave blank

4. (a) Expand and simplify $3(x + 1) + 2(x – 1)$

.....

(2)

(b) Expand and simplify $(x + 5)(x + 6)$

.....

(2)

Q4

(Total 4 marks)

5. Light travels at a speed of 3×10^8 metres per second.

How far will light travel in 8×10^4 seconds?
Give your answer in standard form.

..... metres

(Total 2 marks)

Q5

Leave blank

6.

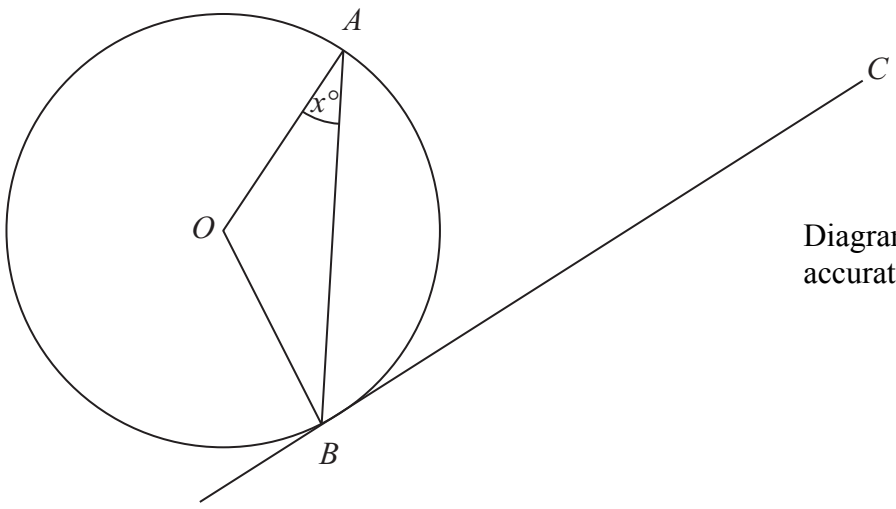


Diagram **NOT** accurately drawn

A and B are two points on the circumference of a circle centre O.
BC is a tangent to the circle.
Angle $OAB = x°$.

Prove that angle $ABC = 90° - x°$.
You must give reasons for each stage in your working.

Q6

(Total 3 marks)

Leave blank

7. Prove that the recurring decimal $0.\dot{5}\dot{7}$ can be written as the fraction $\frac{19}{33}$

Q7

(Total 2 marks)

8. Simplify fully $\frac{x^2+5x+6}{x^2+7x+12}$

Q8

.....

(Total 3 marks)

TOTAL FOR PAPER: 25 MARKS

END