EDEXCEL GCSE MATHEMATICS (MODULAR 2381)

MATHS



EXAM QUESTION PACK

UNIT 2 STAGE 2 (PAPER 9) FOUNDATION TIER 5383F PAPERS

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Thursday 17 November 2011 – 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.
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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)**.
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There are 12 pages in this question paper. Any blank pages are indicated.
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Return at the end to those you have left out.

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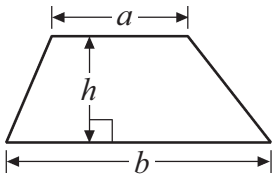
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GCSE Mathematics 2381

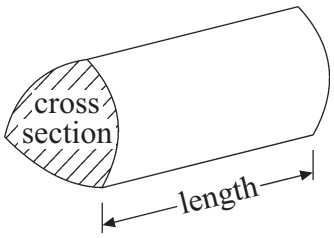
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



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Leave blank

Answer ALL TEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. Write 6.38 correct to the nearest whole number.

.....

(Total 1 mark)

Q1

2. (a) Work out the square of 5

.....

(1)

(b) Work out 2^3

.....

(1)

(Total 2 marks)

Q2

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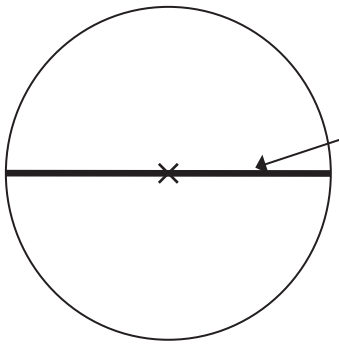
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3. Here is a list of words.

Diameter	Radius	Circumference	Centre	Chord	Sector	Segment

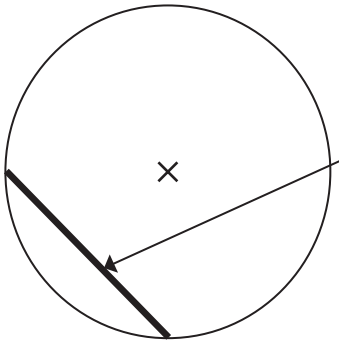
Choose the correct word from the list to label each diagram.

(i)



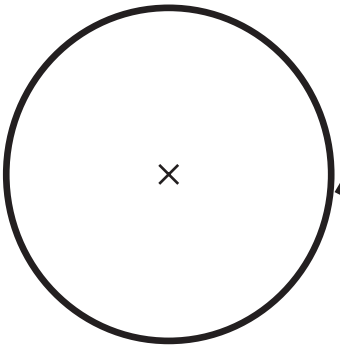
.....

(ii)



.....

(iii)



.....

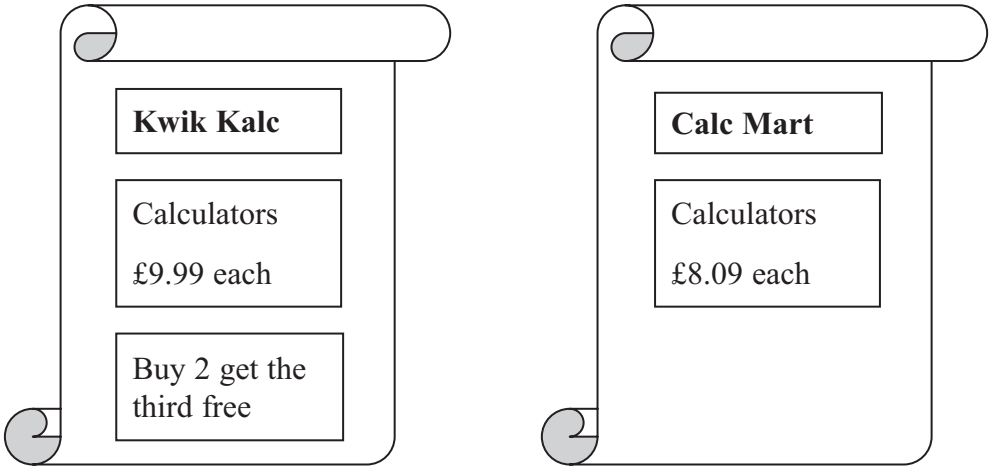
Q3

(Total 3 marks)

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Leave blank

4.



Jim has to buy 30 calculators.

He can buy them from Kwik Kalc or from Calc Mart.

It is cheaper for Jim to get the 30 calculators from Kwik Kalc not from Calc Mart.

Work out how much cheaper.

£ .....

Q4

(Total 3 marks)

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Leave blank

5. (a) Write $\frac{7}{100}$ as a decimal.

.....

(1)

(b) Here is a shape made of centimetre squares.



Shade 20% of the shape.

(1) **Q5**

(Total 2 marks)

6. (a) Simplify $8x - 3x + 2x$

.....

(1)

(b) Simplify $3c + 2d - c - 6d$

.....

(2) **Q6**

(Total 3 marks)

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Leave blank

7. Abah packs tins of soup into boxes.

The largest number of tins she can pack into any box is 36

Abah has to pack 1200 tins of soup.

Work out the number of boxes she needs.

.....

Q7

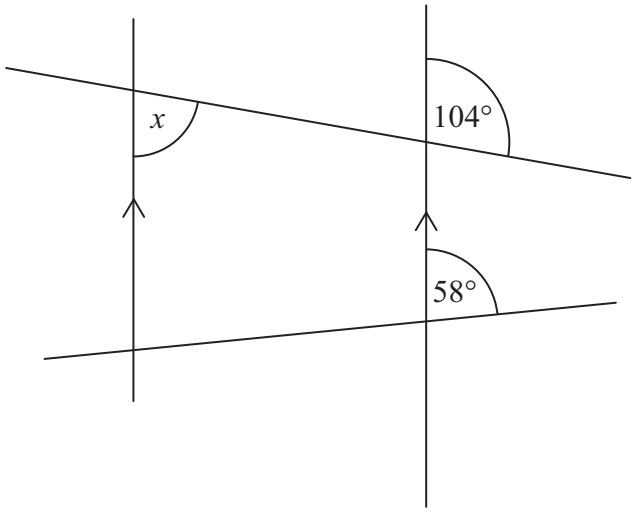
(Total 2 marks)

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Leave blank

8.

Diagram **NOT** accurately drawn



(i) Work out the size of the angle marked x.

.....°

(ii) Give reasons for your answer.

.....

.....

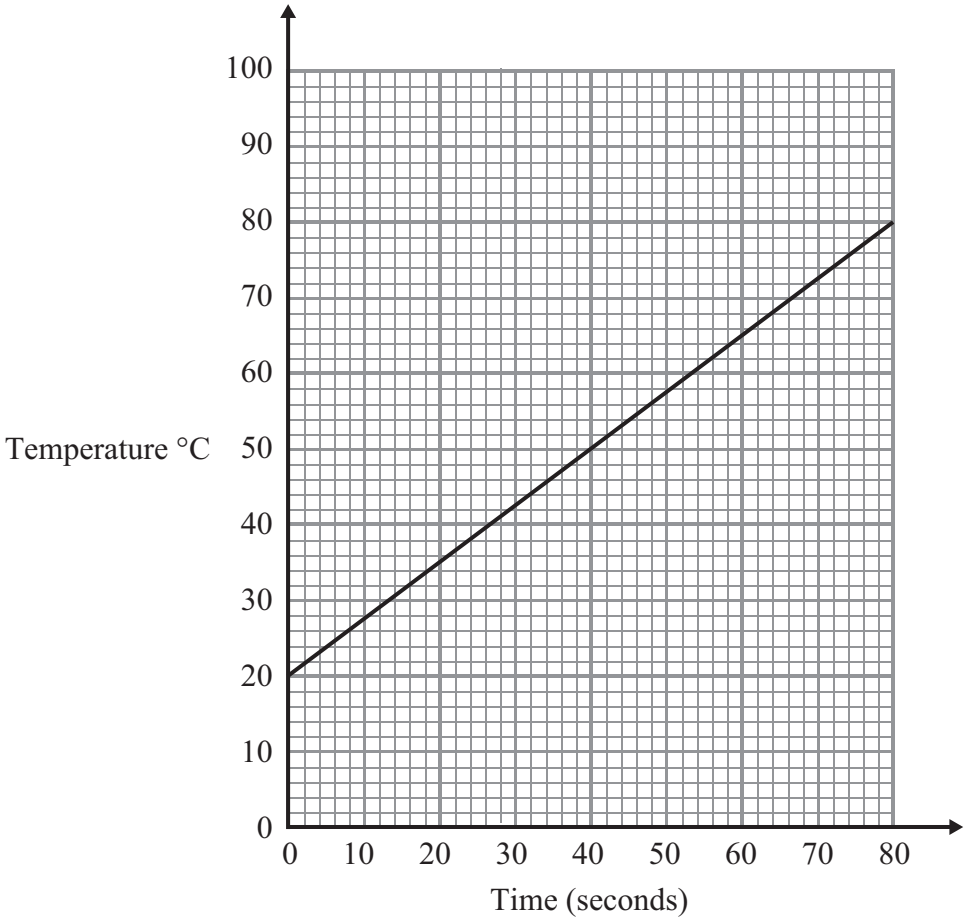
Q8

(Total 2 marks)

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Leave blank

9. Amy heats some water in a kettle.
The graph gives information about the temperature of the water during the first 80 seconds.



(a) Write down the temperature at the start of the 80 seconds.

..... °C
(1)

(b) Work out the number of seconds it took for the temperature to increase from 30°C to 65°C.

..... seconds
(2)

Q9

(Total 3 marks)

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Leave blank

10. Helen leaves a motorway service station at 1 30 pm and drives along the motorway at a speed of 52 miles per hour.
John leaves the same service station at 2 00 pm and drives along the same motorway.
He catches up with Helen at 3 45 pm.

Work out the speed at which John drives.
Give your answer correct to 1 decimal place.

..... mph

Q10

(Total 4 marks)

TOTAL FOR PAPER: 25 MARKS

END

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Mark Scheme (Results)

November 2011

GCSE Mathematics (2381)
Paper 5383F_09 (Calculator)

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November 2011

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NOTES ON MARKING PRINCIPLES

1 Types of mark

M marks: method marks
A marks: accuracy marks
B marks: unconditional accuracy marks (independent of M marks)

2 Abbreviations

cao – correct answer only
isw – ignore subsequent working
oe – or equivalent (and appropriate)
indep - independent
ft – follow through
SC: special case
dep – dependent

3 No working

If no working is shown then correct answers normally score full marks
If no working is shown then incorrect (even though nearly correct) answers score no marks.

4 With working

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.
If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.
If there is no answer on the answer line then check the working for an obvious answer.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

5 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

6 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct
It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.
Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).
Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.
If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.
If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Money notation

Accepted with and without the “p” at the end.

11 Range of answers

Unless otherwise stated, when any answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1).

5383F_09					
Question		**Working**	**Answer**	**Mark**	**Notes**
1			6	1	B1 cao
2	(a)		25	1	B1 cao
	(b)		8	1	B1 cao
3	(i)		Diameter	3	B1 cao
	(ii)		Chord		B1 cao
	(iii)		Circumference		B1 cao
4		Kwik Kalc 30 ÷ 3 = 10 free 9.99 × 20 = 199.8 8.09 × 30 = 242.7 242.7 – 199.8 OR 3 × 8.09 = 24.27 2 × 9.99 = 19.98 24.27 – 19.98 = 4.29 4.29 × 10	42.90	3	M1 8.09 × 30 (= 242.7) or 9.99 × 20 (=199.8) oe M1 '8.09 × 30' – '9.99 × 20' oe A1 cao or M1 8.09 × 3 (= 24.27) or 9.99 × 2(=19.98) oe M1 ('8.09 × 3' – '9.99 × 2') × 10 oe A1 42.9(0)

5383F_09					
Question		**Working**	**Answer**	**Mark**	**Notes**
5	(a)		0.07	1	B1 cao
	(b)		1 square shaded	1	B1 cao
6	(a)		$7x$	1	B1 cao
	(b)		$2c - 4d$	2	B2 cao (B1 $2c$ or $-4d$)
7		$1200 \div 36 = 33.\dot{3}$	34	2	M1 $1200 \div 36$ oe or 33 (. …) A1 cao
8	(i)		76 Full reasons	2	B1 cao B1 angles on a straight line (add up to 180) and either corresponding angles (are equal) or alternate angles (are equal) or vertically opposite angles (are equal) and co-interior angles/allied angles (add up to 180) or vertically opposite angles (are equal) and corresponding angles (are equal) and angles on a straight line (add up to 180)
	(ii)				

5383F_09					
Question		**Working**	**Answer**	**Mark**	**Notes**
9	(a)		20	1	B1 cao
	(b)	Read off at 30 (13s) and at 65 (60s)	47	2	M1 readings of 30^{o}C and 65^{o}C indicated or two times with at least one as 13 ± 2 or 60 ± 2 A1 45 – 49
10		Helen: $52 \times 2\frac{1}{4} = 117$ John: $117 \div 1\frac{3}{4} = 66.857$	66.9	4	M1 3 45 – 1 30 oe or 3 45 – 2 00 oe M1 (dep on 1st M1) use of D = S × T for Helen e.g. $52 \times$ '$2\frac{1}{4}$' eg 117 seen M1 (dep on 1st M1) use of S = D ÷ T for John e.g. '117' ÷ '$1\frac{3}{4}$' eg answer of 67 A1 66.8 – 67

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

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Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Monday 13 June 2011 – 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

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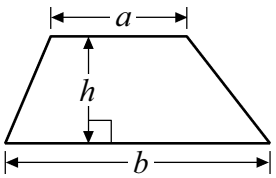
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GCSE Mathematics 2381

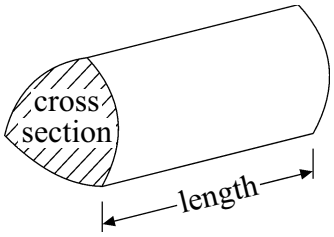
Formulae: Foundation Tier

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Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



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Leave blank

Answer ALL TEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. There are four types of tree in a wood.
The trees are oak trees, birch trees, ash trees and elm trees.

The table shows the percentage of these trees that are oak trees, are birch trees and are ash trees.

Type of tree	Percentage
Oak	55%
Birch	10%
Ash	15%
Elm	

Work out the percentage of these trees that are elm trees.

..... %

(Total 2 marks)

Q1

2. Calculators cost £2.75 each.
A maths teacher has £50 to spend.
She buys as many calculators as she can.

Work out how many calculators she buys.

.....

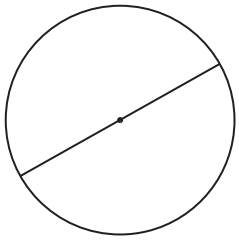
(Total 2 marks)

Q2

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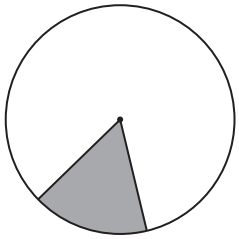
3. (a) Write down the mathematical name of the straight line shown in this diagram.



.....

(1)

(b) Write down the mathematical name of the shaded region shown in this diagram.



.....

(1)

Q3

(Total 2 marks)

4. (a) Simplify $d \times d \times d$

.....

(1)

(b) Simplify $3p \times 2r$

.....

(1)

Q4

(Total 2 marks)

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Leave blank

5. Batteries are sold in packs.
There are n batteries in each pack.

Alex buys 5 packs of batteries.

(a) Write down an expression, in terms of n, for the total number of batteries she buys.

.....
(1)

Alex gives 7 of the batteries to her brother.

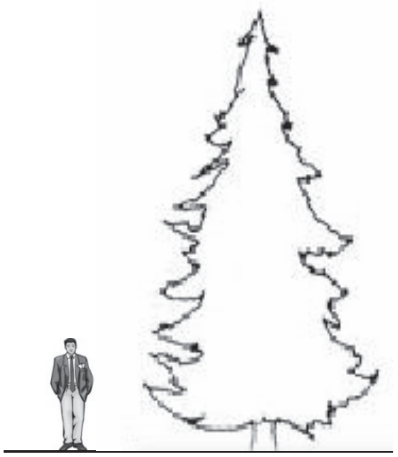
(b) Write down an expression, in terms of n, for the number of batteries Alex now has.

.....
(1)

Q5

(Total 2 marks)

6.



The picture shows a man standing next to a tree.
The man is of normal height.

Estimate the height, in metres, of the tree.

..... m

Q6

(Total 2 marks)

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Leave blank

7. Samuel buys 3 kg of apples and 4 kg of pears.
The total cost is £10.30

The apples cost £1.34 per kg.

Work out the cost per kg of the pears.

£ .....

(Total 3 marks)

Q7

8. (a) Work out the value of $(3.5 - 1.92)^2 \times 3.274$

Write down all the figures on your calculator display.

.....

(2)

(b) Write your answer to part (a) correct to 1 decimal place.

.....

(1)

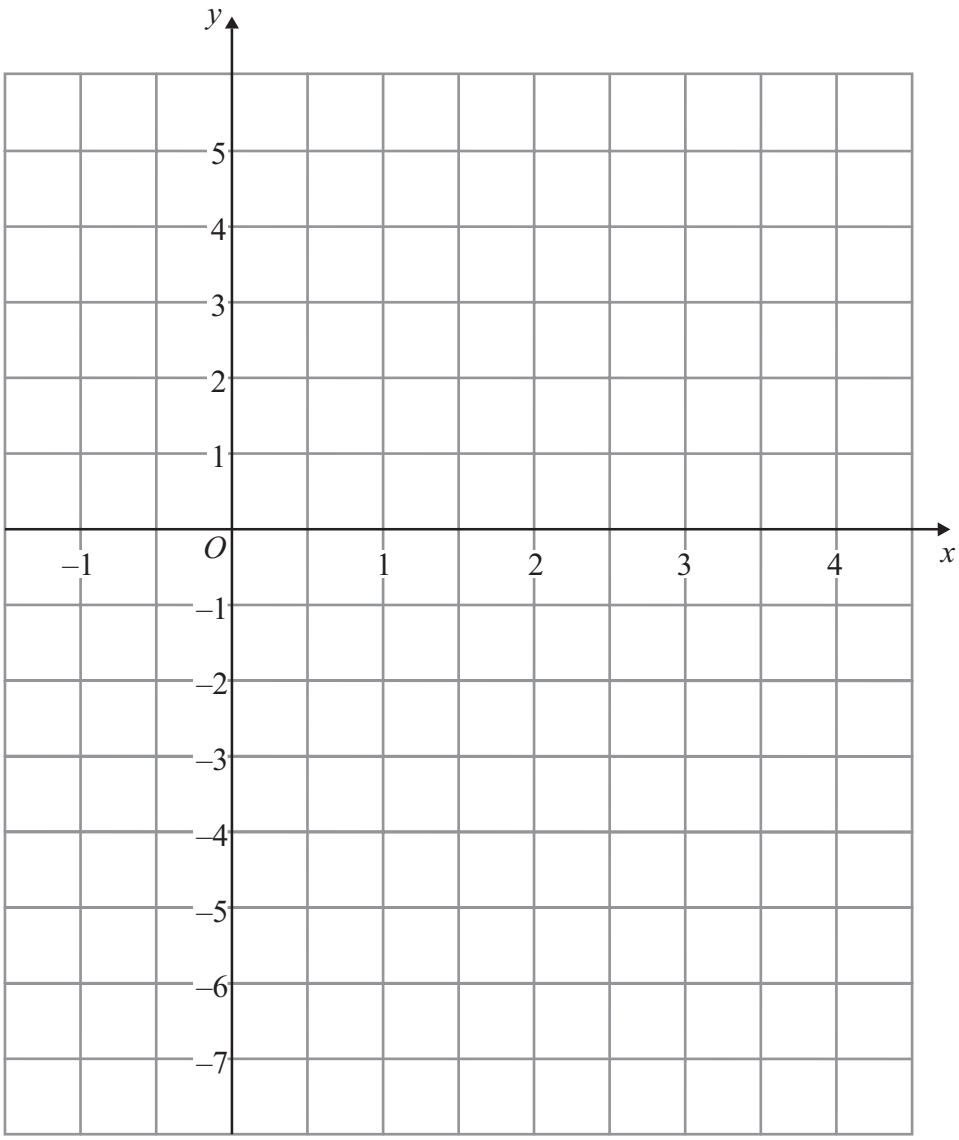
(Total 3 marks)

Q8

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Leave blank

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



Q9

(Total 3 marks)

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Leave blank

10.

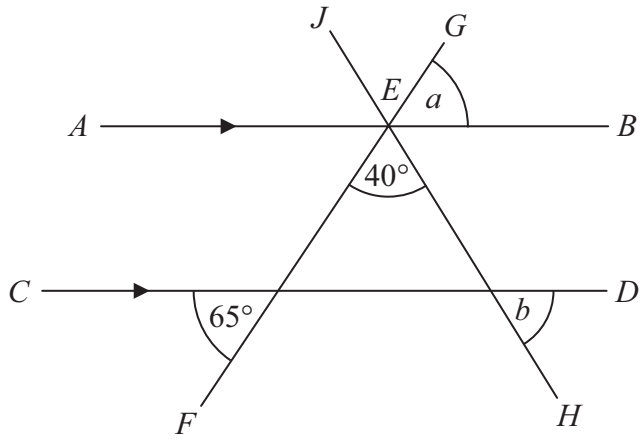


Diagram **NOT** accurately drawn

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*.

.....°

(ii) Give reasons for your answer.

.....

.....

(2)

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

.....°

(2) **Q10**

(Total 4 marks)

TOTAL FOR PAPER: 25 MARKS

END

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Mark Scheme (Results)

June 2011

GCSE Mathematics (5383F)
Paper 09 (Calculator)

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NOTES ON MARKING PRINCIPLES

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A marks: accuracy marks
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2 Abbreviations

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isw – ignore subsequent working
oe – or equivalent (and appropriate)
indep - independent
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SC: special case
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It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Money notation

Accepted with and without the “p” at the end.

11 Range of answers

Unless otherwise stated, when any answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1).

5383F/09					
Question		**Working**	**Answer**	**Mark**	**Notes**
1		100 – (55 + 10 + 15)	20	2	M1 for 100 – (55 + 10 + 15) oe A1 cao
2		50 ÷ 2.75 (=18.1818..)	18	2	M1 for 50 ÷ 2.75 or 18.18(...) seen or for addition method leading to a total within £2.75 of £50 A1 cao
3	(a)		diameter	1	B1 for diameter, accept chord
	(b)		sector	1	B1 cao
4	(a)		d^3	1	B1 for d^3
	(b)		$6pr$	1	B1 for $6pr$ (accept $6rp$, $pr6$, $rp6$ oe)
5	(a)		$5n$	1	B1 for $5n$ (accept $n5$ or $5 \times n$ or $n \times 5$)
	(b)		$5n - 7$	1	B1ft for '$5n$' – 7 provided that '$5n$' is an algebraic expression.
6			6.0 – 8.0	2	M1 for evidence of use of man as a scale in the range 1.5 to 2.5 A1 for 6.0 to 8.0 inclusive
7		1.34 × 3 = 4.02 (10.30 – 4.02) ÷ 4	1.57	3	M1 for 1.34 × 3 or 4.02 or 6.28 M1 (dep) for (10.30 – "4.02") ÷ 4 A1 cao SC: award B2 for any answer other than 1.57 with the digits 157.
8	(a)		8.1732136	2	M1 for 1.58 followed by squaring (eg 1.58×1.58), may be implied by 2.4964 seen, or for 8.17(...) seen A1 for 8.17321(36)
	(b)		8.2	1	B1 ft from (a)

5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
9	<table><tr><td>*x*</td><td>–1</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>*y*</td><td>–6</td><td>–4</td><td>–2</td><td>0</td><td>2</td><td>4</td></tr></table>	Correct line	3	**(Table of values)** M1 for at least 2 correct attempts to find points by substituting values of *x*. M1 ft for plotting at least 2 of their points (any points plotted from their table must be correct) A1 for correct line between -1 and 4 **(No table of values)** M2 for at least 2 correct points (and no incorrect points) plotted OR line segment of 2*x*-4 drawn (ignore any additional incorrect segments) (M1 for at least 3 correct points with no more than 2 incorrect points) A1 for correct line between -1 and 4 **(Use of *y*=m*x*+c)** M2 for at least 2 correct points (and no incorrect points) plotted OR line segment of 2*x*-4 drawn (ignore any additional incorrect segments) (M1 for line drawn with gradient of 2 OR line drawn with a *y* intercept of -4) A1 for correct line between -1 and 4

5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
10 (a)(i)		65	2	B1 cao
(ii)		Geometric reasoning.		B1 corresponding angles (or F angles) **and** (vertically) opposite angles OR B1 corresponding angles (or F angles) **and** angles on a straight line add to 180° OR any correct description of a combination of reasons that will lead to the correct answer eg (vertically) opposite followed by alternative (Z angle) followed by (vertically) opposite.
(b)	180 – (40 + 65)	75	2	M1for 180 – (40 + 65) oe A1 cao OR M1 180 – (40+"A") A1 ft if "A">50

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Tuesday 1 March 2011 – 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 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 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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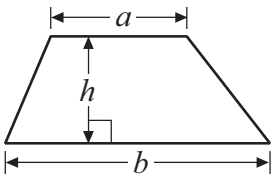
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GCSE Mathematics 2381

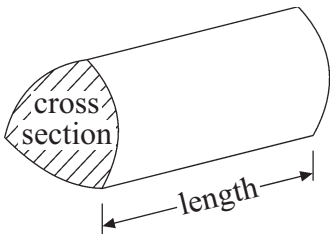
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



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Leave blank

Answer ALL NINE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. (a) Write 12.38 to the nearest whole number.

.....

(1)

(b) Write down the square of 5

.....

(1)

(c) Find the square root of 81

.....

(1)

Q1

(Total 3 marks)

2. (a) Simplify $p + p + p + p$

.....

(1)

(b) Simplify $r \times r \times r$

.....

(1)

(c) Simplify $5t \times 2w$

.....

(1)

Q2

(Total 3 marks)

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Leave blank

3. Mark has 650 songs on his MP3 player.

He deletes 74 of these songs.
He then puts 45 new songs on his MP3 player.

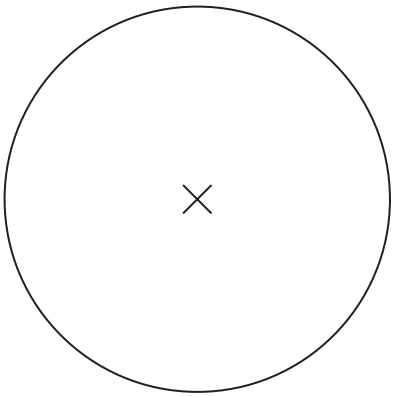
How many songs does Mark now have on his MP3 player?

.....

Q3

(Total 2 marks)

4. In the circle, draw a radius.



Q4

(Total 1 mark)

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Leave blank

5. Ally buys

1 sketch pad for £6.15
3 pencils for 65p each
1 packet of crayons for £3.70

She pays with a £20 note.

How much change should she get?

£.....

(Total 3 marks)

Q5

Leave blank

6.

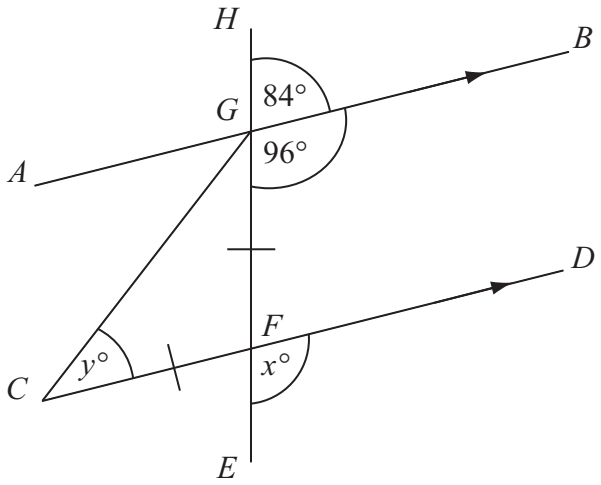


Diagram **NOT** accurately drawn

AGB is parallel to *CFD*.
EFGH is a straight line.
CF = *GF*.

(a) (i) Write down the value of *x*.

x = ...

(ii) Give a reason for your answer.

.....

(2)

(b) Work out the value of *y*.

y = ...

(2) **Q6**

(Total 4 marks)

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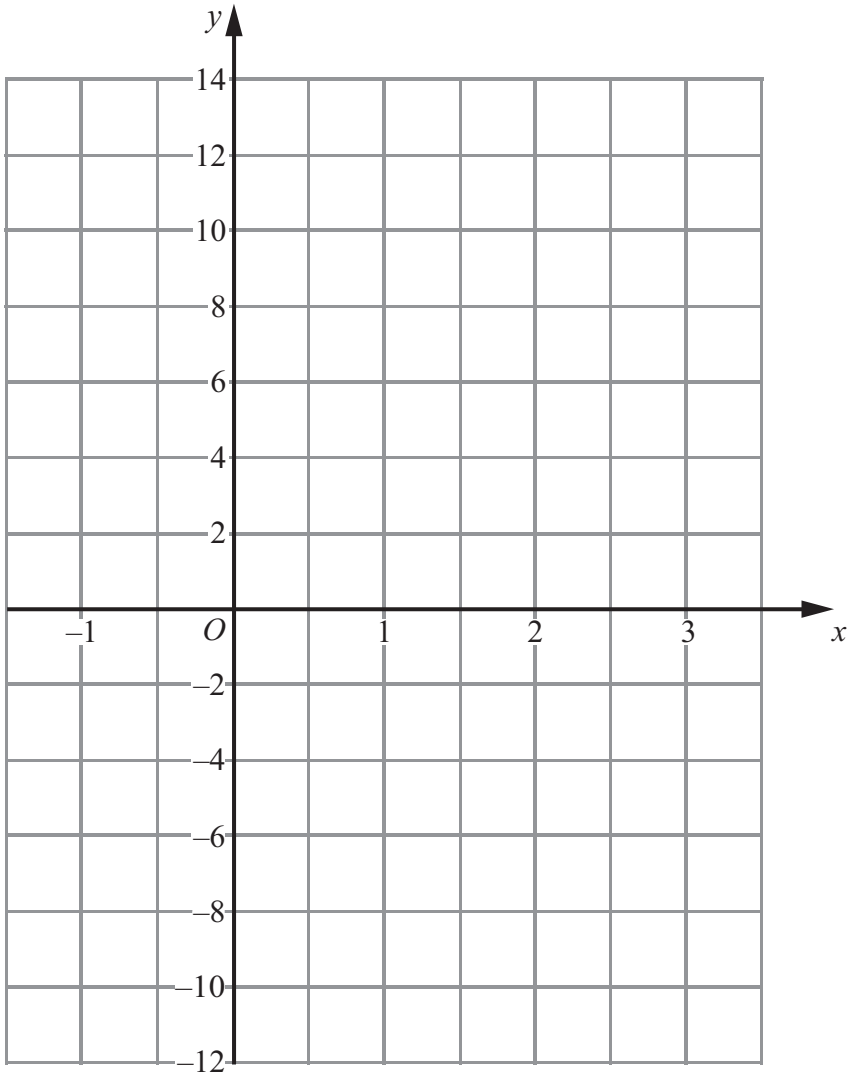
Leave blank

7. (a) Complete the table of values for $y = 6x - 5$

x	–1	0	1	2	3
y		–5			13

(2)

(b) On the grid, draw the graph of $y = 6x - 5$ for values of x from –1 to 3



(2) **Q7**

(Total 4 marks)

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Leave blank

8. There are 1600 pupils in a school.
55% of the pupils are boys.

Work out the number of girls in the school.

.....

Q8

(Total 2 marks)

9. Here is a solid triangular prism.

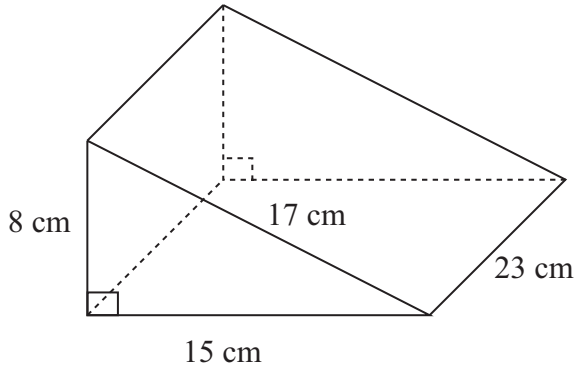


Diagram **NOT** accurately drawn

Work out the total **surface area** of the prism.

.....cm^2

Q9

(Total 3 marks)

TOTAL FOR PAPER: 25 MARKS

END

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Mark Scheme (Results)

March 2011

GCSE

GCSE Mathematics (Modular) - 2381
Paper: 5383F/09

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Ask The Expert can be accessed online at the following link:
http://www.edexcel.com/Aboutus/contact-us/

March 2011
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NOTES ON MARKING PRINCIPLES

1 Types of mark

M marks: method marks
A marks: accuracy marks
B marks: unconditional accuracy marks (independent of M marks)

2 Abbreviations

cao – correct answer only
isw – ignore subsequent working
oe – or equivalent (and appropriate)
indep - independent
ft – follow through
SC: special case
dep – dependent

3 No working

If no working is shown then correct answers normally score full marks
If no working is shown then incorrect (even though nearly correct) answers score no marks.

4 With working

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.
If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.
If there is no answer on the answer line then check the working for an obvious answer.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

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5 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

6 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Money notation

Accepted with and without the “p” at the end.

11 Range of answers

Unless otherwise stated, when any answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1)

5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		12	1	B1 cao
(b)		25	1	B1 cao
(c)		9	1	B1 accept ± 9
2 (a)		$4p$	1	B1 cao
(b)		r^3	1	B1 cao
(c)		$10tw$	1	B1 cao
3	$650-75+45$	621	2	M1 for $650-75+45$ or $650-(74-45)$ A1 cao
4		Radius drawn	1	B1 for radius drawn
5	$(6.15+3\times 0.65+3.70=11.80)$	8.20	3	M1 for $6.15+3\times 0.65+3.70\,(=11.8(0))$ **or** $615+3\times 65+370(=1180)$ M1(dep) for 20 – '11.8' **or** 2000–'1180' A1 for 8.2(0) [SC B2 for 9.5(0) or 8.85 or 7.55]

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
6 (a) (i)		96	2	B1 cao
(ii)		Correct reason		B1 for correct reason, e.g. corresponding angles (accept F angles) **or** alternate angles (accept Z angles) **and** angles on a straight line add to 180^o
(b)		42	2	M1 for $(180-96)\div 2$ **or** $84\div 2$ A1 cao
7 (a)		$-11,\ 1,\ 7$	2	B2 for all values correct (B1 for 1 or 2 values correct)
(b)		Correct line	2	B2 for correct line from $(-1,-11)$ to $(3,13)$ (B1 for 4 points plotted correctly ft their values) [SC B1 for any single line through (0,-5) or any single line of gradient 6]
8	$0.45\div 1600$	720	2	M1 for $\frac{(100-55)}{100}\times 1600$ oe **or** $1600-\frac{55}{100}\times 1600$ oe **or** a correct decomposition, e.g. 800 (=50%) – 80 (=5%) **or** 880 A1 cao

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
9	$\left(\frac{1}{2}\times 8\times 15\right)\times 2+(17\times 23)+$ $(15\times 23)+(8\times 23)$	1040	3	M1 for $\frac{1}{2}\times 8\times 15(=60)$ **or** $17\times 23(=391)$ **or** $15\times 23(=345)$ **or** $8\times 23(=184)$ M1 for $2\times\left(\frac{1}{2}\times 8\times 15\right)+(17\times 23)+(15\times 23)+(8\times 23)$ A1 cao

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation 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 10 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.

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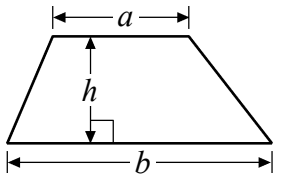
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GCSE Mathematics 2381

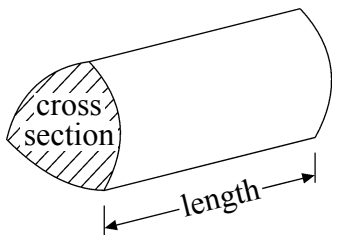
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



N 3 7 7 2 9 A 0 2 0 8

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Leave blank

Answer ALL TEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. A book costs £3.55

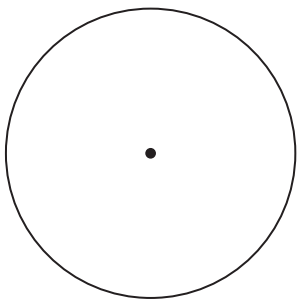
Work out the cost of 10 of these books.

£ .....

(Total 2 marks)

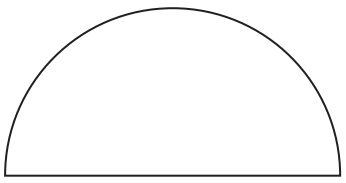
Q1

2. (a) In this circle draw a radius.



(1)

(b)



What is the mathematical name of this shape?

.....

(1)

Q2

(Total 2 marks)

N 3 7 7 2 9 A 0 3 0 8

Turn over

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Leave blank

3. Here is a list of numbers.

3 5 8 9 12 16 20 27 30

From the list write down

(a) a square number,

.....

(1)

(b) a cube number.

.....

(1)

Q3

(Total 2 marks)

4. Gerald buys

4 medals and

1 trophy.

He pays with a £20 note.

Work out how much change he should get.

Cost	
Medal	£1.29
Trophy	£3.90
Plaque	£11.95

£ .....

Q4

(Total 3 marks)

N 3 7 7 2 9 A 0 4 0 8

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Leave blank

5. (a) Write down the most sensible **imperial** unit used to measure the distance from Manchester to London.

.....
(1)

(b) Write down the most sensible **metric** unit used to measure the distance from Calais to Paris.

.....
(1) **Q5**

(Total 2 marks)

6. There are 6 eggs in a box.

(a) Write down an expression, in terms of n, for the number of eggs in n boxes.

.....
(1)

Jill has n boxes of eggs.
She uses 3 of the eggs.

(b) Write down an expression, in terms of n, for the number of eggs Jill has now.

.....
(1) **Q6**

(Total 2 marks)

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Leave blank

7. (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)

(Total 3 marks)

Q7

8. Expand $x(x + 2)$

.....

(Total 1 mark)

Q8

N 3 7 7 2 9 A 0 6 0 8

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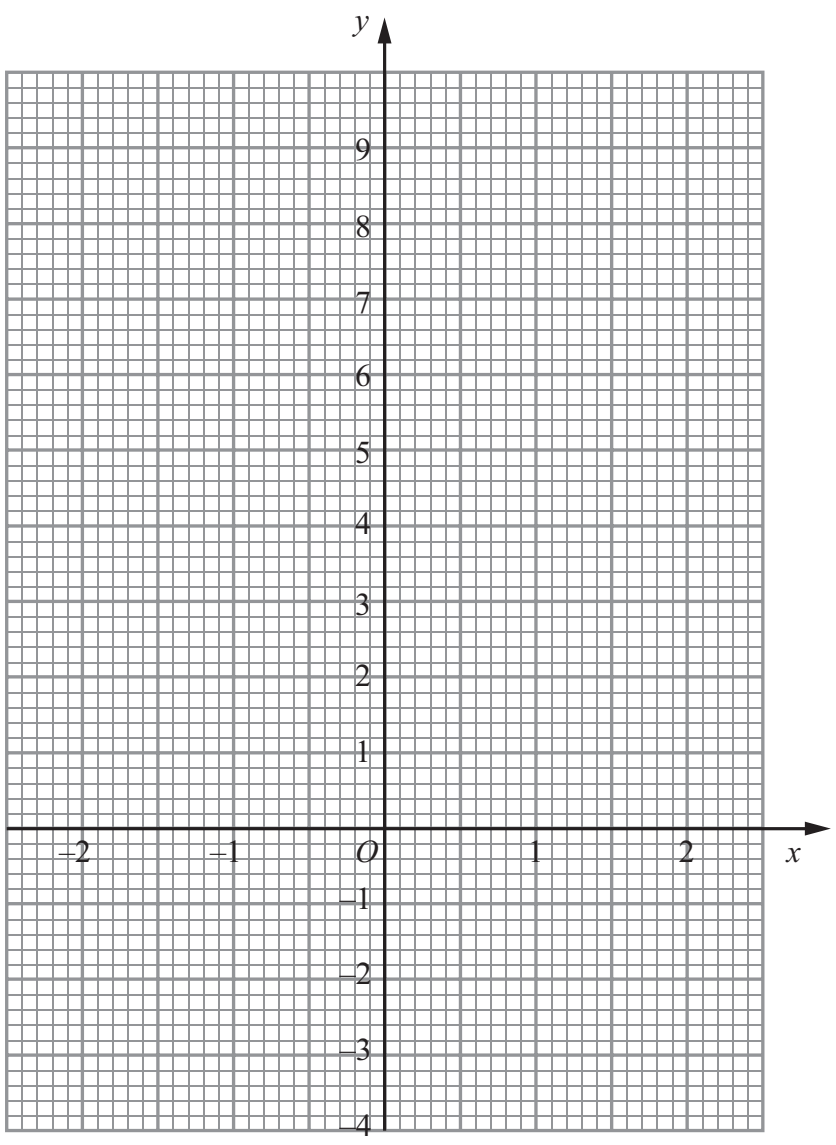
Leave blank

9. (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) **Q9**

(Total 4 marks)

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Leave blank

10.

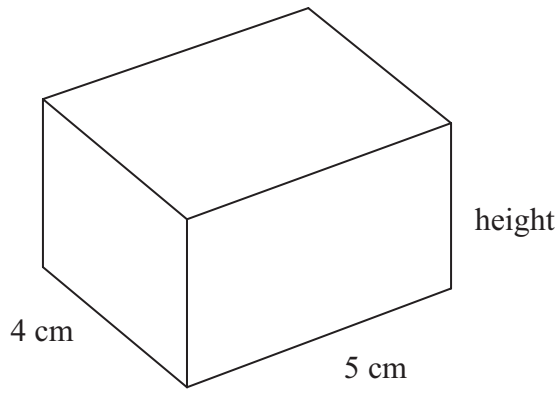


Diagram **NOT** accurately drawn

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)

Q10

(Total 4 marks)

TOTAL FOR PAPER: 25 MARKS

END

N 3 7 7 2 9 A 0 8 0 8

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Mark Scheme (Results)

November 2010

GCSE

GCSE Mathematics (5383F)
Paper 09

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http://www.edexcel.com/Aboutus/contact-us/

November 2010

Publications Code UG025837

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NOTES ON MARKING PRINCIPLES

1 Types of mark

M marks: method marks
A marks: accuracy marks
B marks: unconditional accuracy marks (independent of M marks)

2 Abbreviations

cao – correct answer only
isw – ignore subsequent working
oe – or equivalent (and appropriate)
indep - independent
ft – follow through
SC: special case
dep – dependent

3 No working

If no working is shown then correct answers normally score full marks
If no working is shown then incorrect (even though nearly correct) answers score no marks.

4 With working

If there is a wrong answer indicated on the answer line always check the working in the body of the script (and on any diagrams), and award any marks appropriate from the mark scheme.
If working is crossed out and still legible, then it should be given any appropriate marks, as long as it has not been replaced by alternative work.
If it is clear from the working that the "correct" answer has been obtained from incorrect working, award 0 marks. Send the response to review, and discuss each of these situations with your Team Leader.
If there is no answer on the answer line then check the working for an obvious answer.
Any case of suspected misread loses A (and B) marks on that part, but can gain the M marks. Discuss each of these situations with your Team Leader.
If there is a choice of methods shown, then no marks should be awarded, unless the answer on the answer line makes clear the method that has been used.

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5 Follow through marks

Follow through marks which involve a single stage calculation can be awarded without working since you can check the answer yourself, but if ambiguous do not award.

Follow through marks which involve more than one stage of calculation can only be awarded on sight of the relevant working, even if it appears obvious that there is only one way you could get the answer given.

6 Ignoring subsequent work

It is appropriate to ignore subsequent work when the additional work does not change the answer in a way that is inappropriate for the question: e.g. incorrect canceling of a fraction that would otherwise be correct

It is not appropriate to ignore subsequent work when the additional work essentially makes the answer incorrect e.g. algebra.

Transcription errors occur when candidates present a correct answer in working, and write it incorrectly on the answer line; mark the correct answer.

7 Probability

Probability answers must be given a fractions, percentages or decimals. If a candidate gives a decimal equivalent to a probability, this should be written to at least 2 decimal places (unless tenths).

Incorrect notation should lose the accuracy marks, but be awarded any implied method marks.

If a probability answer is given on the answer line using both incorrect and correct notation, award the marks.

If a probability fraction is given then cancelled incorrectly, ignore the incorrectly cancelled answer.

8 Linear equations

Full marks can be gained if the solution alone is given on the answer line, or otherwise unambiguously indicated in working (without contradiction elsewhere). Where the correct solution only is shown substituted, but not identified as the solution, the accuracy mark is lost but any method marks can be awarded.

9 Parts of questions

Unless allowed by the mark scheme, the marks allocated to one part of the question CANNOT be awarded in another.

10 Range of answers

Unless otherwise stated, when an answer is given as a range (e.g 3.5 – 4.2) then this is inclusive of the end points (e.g 3.5, 4.2) and includes all numbers within the range (e.g 4, 4.1)

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5383F/09					
Question		**Working**	**Answer**	**Mark**	**Notes**
1			35.50	2	M1 for 3.55×10 (implied by 35.5 or 35.5p) or the addition of 10 lots of 3.55 or 3550 A1 for £35.50 or £35.50p
2	(a)		Radius	1	B1 Radius drawn; approximate straight line, ends ±2 mm
	(b)		Semicircle, or segment or sector	1	B1 Semicircle, segment or sector; allow poor spellings that are not ambiguous
3	(a)		9 or 16	1	B1 Accept either 9 or 16 or both.
	(b)		8 or 27	1	B1 Accept either 8 or 27 or both.
4		4 × 1.29 = 5.16 5.16 + 3.90 = 9.06 20 - 9.06 = Or 20 - 4 × 1.29 – 3.90	10.94	3	M1 for 4× 1.29 or 5.16 seen or 1.29+1.29+1.29+1.29 or 4 ×1.29 + 5.16 or 9.06 seen Either M1 for 20 – ("5.16"+3.90) OR 20-(1.29+3.90) or M1 for an answer which when added to their total (which must have earned the previous M1) gives 20 A1 for 10.94 Or M2 20 - 4 × 1.29 – 3.90 A1 for 10.94 SC B2 for 14.81 or B1 for 2.86 if M0 scored.
5	(a)		miles	1	B1 accept unambiguous abbreviations
	(b)		kilometres	1	B1 accept unambiguous abbreviations

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Question	Working	Answer	Mark	Notes
6 (a)		$6n$	1	B1 for $6n$, $6\times n$, $n6$, $n\times 6$ etc. Accept N for n
(b)		$6n-3$	1	B1 for "$6n$"-3 oe where the "$6n$" must have a term in n or must use the same letter as in their answer in (a)
7 (a)	$\frac{73.8234}{22.2467}$	3.3183(978)	2	B2 for 3.3183(977... or 3.3184 (B1 for 73.82(34) or 22.24(67)(rounded or truncated)) or $\frac{105462}{31781}$ or $3\frac{10119}{31781}$ or 3.31, 3.32, 3.318)
(b)		3	1	B1 ft rounding to 1 s.f. NB: B0 for 3.0
8		$x^2 + 2x$	1	B1 Allow $x\times x + 2\times x$
9 (a)	(-3), 0, 3, (6), 9	0,3,9	2	B2 for all three correct (B1 for one or two correct)
(b)	Line	Line	2	B2 correct line from (-2,-3) to (2,9) (B1 ft (dep on at least B1 in (a)) for plotting at least 4 points (tol ±1 sq) OR single line of gradient 3, or single line intercept at (0,3))
10 (a)	60 ÷ (4 × 5) = 60 ÷ 20, or 4 × 5 × 3	3	2	M1 for 60 ÷ (4 × 5) or 60 ÷ 20 or 4 × 5 × 3 or (60÷4) ÷ 5 (condone omission of brackets) oe A1 cao
(b)	534 ÷ 60	8.9	2	M1 for 534 ÷ 60 A1 cao

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Monday 21 June 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 11 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.

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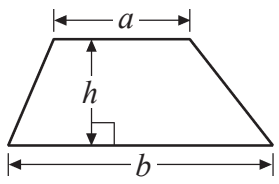
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GCSE Mathematics

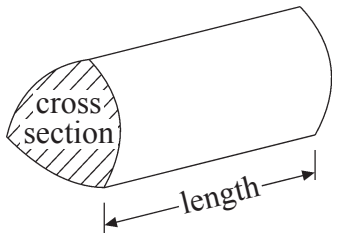
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



N 3 6 7 6 5 A 0 2 0 8

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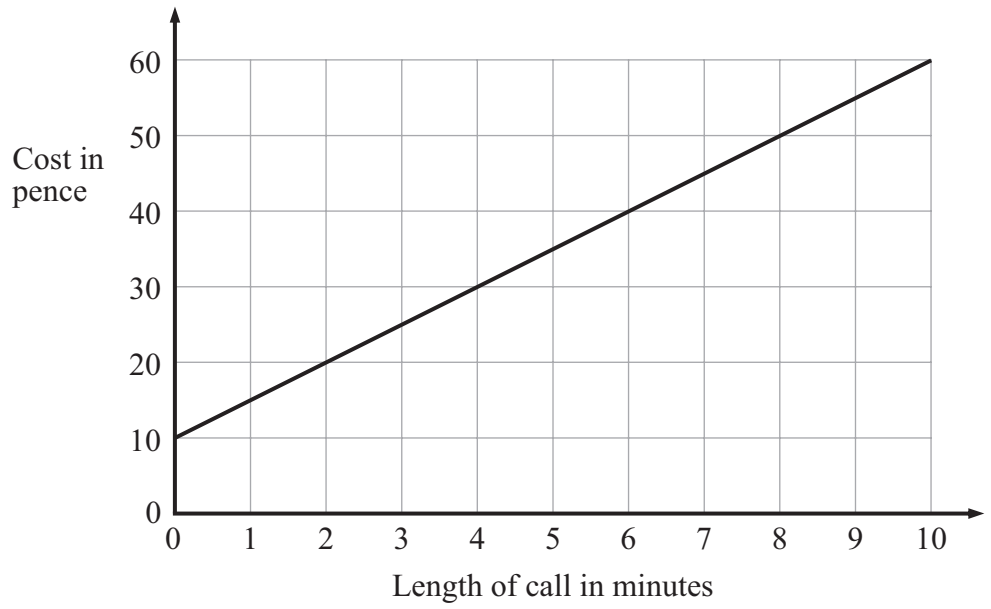
Leave blank

Answer ALL ELEVEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. This graph can be used to work out the cost, in pence, of a telephone call.



The length of a call is 6 minutes.

(a) Use the graph to find the cost of the call.

..... p
(1)

The cost of another call is 30p.

(b) Use the graph to find the length of the call.

..... minutes
(1)

Q1

(Total 2 marks)

N 3 6 7 6 5 A 0 3 0 8

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Leave blank

2. Write down a sensible **metric** unit for measuring

(i) the height of a mountain,

.....

(ii) the amount of water in a pond.

..... **Q2**

(Total 2 marks)

3.

Prices	
Milkshake	90p
Can of orange	65p
Beefburger	£2.45
Egg and chips	£2.75

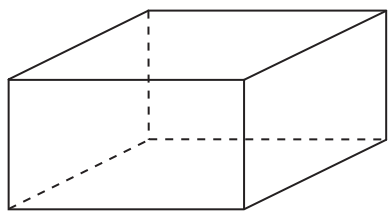
Nicola buys **two** milkshakes and **one** beefburger.

Work out the total cost.

£ **Q3**

(Total 2 marks)

4. Here is a diagram of a solid cuboid.



(i) Write down the number of faces of the cuboid.

.....

(ii) Write down the number of edges of the cuboid.

..... **Q4**

(Total 2 marks)

N 3 6 7 6 5 A 0 4 0 8

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5. Here is a list of eight numbers.

5 6 7 8 9 10 11 12

From the list, write down

(i) the square number

.....

(ii) the cube of 2

.....

(Total 2 marks)

Q5

6. (a) Simplify $5m - 2m$

.....

(1)

(b) Simplify $4c \times 2d$

.....

(1)

(c) Simplify $3a + 6b + a - 4b$

.....

(2)

(Total 4 marks)

Q6

7.

Concert tickets	
Adult ticket	£7.50
Child ticket	£3.50

Mr Brown buys 2 adult tickets and some child tickets.
The total cost is £39.50

Work out how many child tickets he buys.

.....

(Total 2 marks)

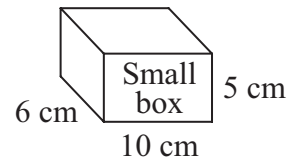
Q7

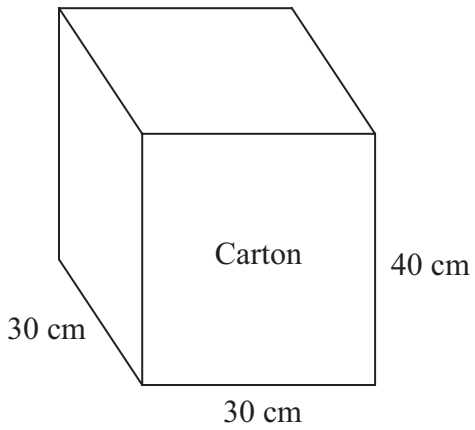
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Leave blank

8.





Diagrams **NOT** accurately drawn

A small box measures 6 cm by 10 cm by 5 cm.
A carton measures 30 cm by 30 cm by 40 cm.

The carton is completely filled with small boxes.

Work out the number of small boxes in the carton.

.....

Q8

(Total 3 marks)

N 3 6 7 6 5 A 0 6 0 8

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Leave blank

9. Work out the value of $\dfrac{6.5^2}{7.3 - 2.54}$

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

.....

Q9

(Total 2 marks)

10. The diagram shows the positions of two ships, *A* and *B*.

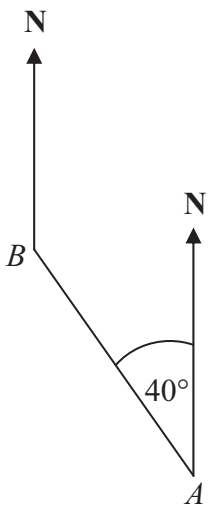


Diagram **NOT** accurately drawn

Ali says

"The bearing of ship *B* from ship *A* is 040°".

Ali is wrong.

(a) Explain why.

.....

.....

.....

(1)

(b) Work out the bearing of ship *A* from ship *B*.

°

.....

(1)

Q10

(Total 2 marks)

N 3 6 7 6 5 A 0 7 0 8

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11. Write as a power of 7

(i) $7^6 \times 7^2$

.....

(ii) $7^9 \div 7^5$

.....

Q11

(Total 2 marks)

TOTAL FOR PAPER: 25 MARKS

END

N 3 6 7 6 5 A 0 8 0 8

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Mark Scheme Results

Summer 2010

GCSE

GCSE Mathematics (5383F)
Paper 09

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Summer 2010

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Question	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		40	1	B1 for 40 or 40p
(b)		4	1	for 4 cao
2 (i)		metres (m)	1	B1 for metres (or m), accept kilometres (or km)
(ii)		litres (l)	1	B1 for litres (or l), accept cubic metres (or m^3)
3	$2\times0.90+2.45$	4.25	2	M1 for $2\times0.90+£2.45$ **or** $2\times0.90(0)+2.45$ **or** $2\times90+245$ **or** 2×90p + £2.45 **or** digits 425 seen A1 cao but accept £4.25p SCB1 for 3.35 **or** 335p **or** 6.70 **or** 670p
4 (i)		6	1	B1 for 6 cao
(ii)		12	1	B1 for 12 cao

5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
5 (i)		9	1	B1 for 9 cao
(ii)		8	1	B1 for 8 cao
6 (a)		$3m$	1	B1 for $3m$ (accept $m3$ or $3 \times m$ or $m \times 3$)
(b)		$8cd$	1	B1 for $8cd$ (accept $8dc$, $cd8$, $dc8$ oe)
(c)		$4a + 2b$	2	B2 for $4a + 2b$ (B1 for $4a$ **or** $+2b$ seen)
7		7	2	M1 for $(39.50 - 2 \times 7.50) \div 3.50$ oe A1 for 7 cao **or** M1 for $2 \times 7.50 + n \times 3.50$ where $n \neq 0$ (may be seen as a repeated addition) **or** $39.50 - 2 \times 3.50 - n \times 3.50$ where $n \neq 0$ A1 cao

5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
8	$(40 \div 5) \times (30 \div 10) \times (30 \div 6)$	120	3	M1 for $40 \div 5$ **or** $30 \div 10$ **or** $30 \div 6$ **or** $40 \div 10$ **or** $30 \div 5$ or at least two of 8, 3, 5 seen. M1 (dep) for $(40 \div 5) \times (30 \div 10) \times (30 \div 6)$ **or** $(40 \div 10) \times (30 \div 6) \times (30 \div 5)$ **or** "8"×"5"×"3" **or** "4"×"5"×"6" A1 cao **or** M1 for $6 \times 10 \times 5$ **or** 300 **or** $30 \times 30 \times 40$ **or** 36000 M1 (dep) for $(30 \times 30 \times 40) \div (6 \times 10 \times 5)$ or "36000" ÷ "300" A1 cao
9		8.87605 (042.)	2	M1 for 42.25 seen **or** 4.76 seen A1 for 8.87605 (042…) SC: B1 for $\frac{4225}{476}$ **or** $8\frac{417}{476}$ **or** answer in range 8.8-8.9 inclusive
10 (a)		Reason	1	B1 for 'The bearing is 320°' **or** 'He should have measured clockwise' **or** 'The bearing is a reflex angle' oe
(b)		140	1	B1 for 140 cao

Question	Working	Answer	Mark	Notes
11 (i)		7^8	1	B1 for 7^8, accept 7^{6+2}
(ii)		7^4	1	B1 for 7^4, accept 7^{9-5}

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

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Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Tuesday 2 March 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

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Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
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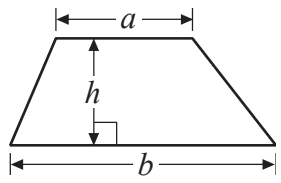
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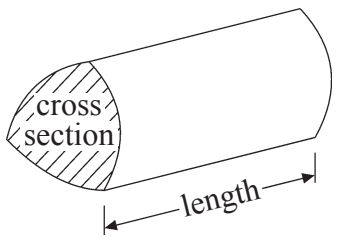
Formulae: Foundation Tier

You must not write on this formulae page.
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Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



N 3 6 3 3 1 A 0 2 0 8

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Leave blank

Answer ALL ELEVEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. Here is a solid prism made from centimetre cubes.

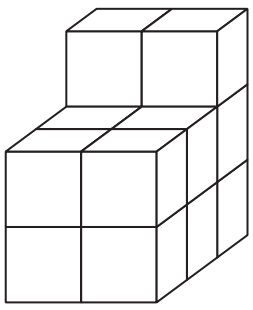
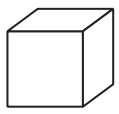


Diagram **NOT** accurately drawn



1 cm^3

Find the volume of this prism.

..... cm^3

(Total 2 marks)

Q1

2. Salma has some counters.
30% of the counters are red.

What percentage of the counters are **not** red?

..... %

(Total 1 mark)

Q2

3. Lollipops cost 34p each.
Adam has £4 to spend.

He buys as many lollipops as he can.
Work out how many lollipops he buys.

.....

(Total 2 marks)

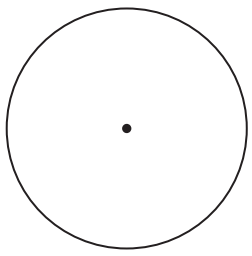
Q3

N 3 6 3 3 1 A 0 3 0 8

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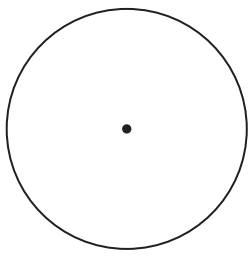
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4. (a) In the circle, draw a radius.



(1)

(b) In the circle, draw a sector.



(1) **Q4**

(Total 2 marks)

5. (a) Find the value of $\sqrt{5.29}$

.....

(1)

(b) Work out the value of 27^2

.....

(1)

(c) Work out the cube of 4

.....

(1) **Q5**

(Total 3 marks)

N 3 6 3 3 1 A 0 4 0 8

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Leave blank

6. A taxi journey costs

a fixed charge of £2.20
plus
£1.50 for each mile travelled.

Stacy's taxi journey cost £15.70

Work out how many miles Stacy travelled.

..... miles
(Total 3 marks)

Q6

7. (a) Simplify $f + f + f$

.....
(1)

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

.....
(1)

(c) Expand $5(x + 2)$

.....
(1)

Q7

(Total 3 marks)

N 3 6 3 3 1 A 0 5 0 8

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Leave blank

8. Work out the value of $\dfrac{8.62 + 3.49}{4.33 - 2.67}$

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

.....

Q8

(Total 2 marks)

9.

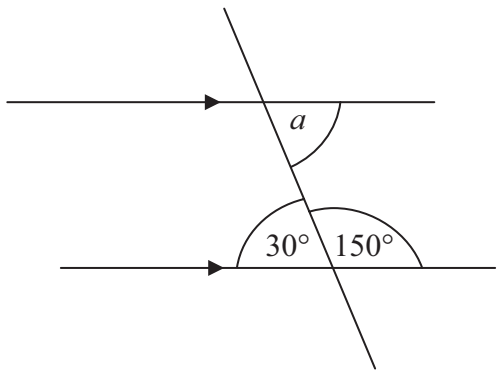


Diagram **NOT** accurately drawn

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

.....°

(ii) Give a reason for your answer.

.....

.....

.....

Q9

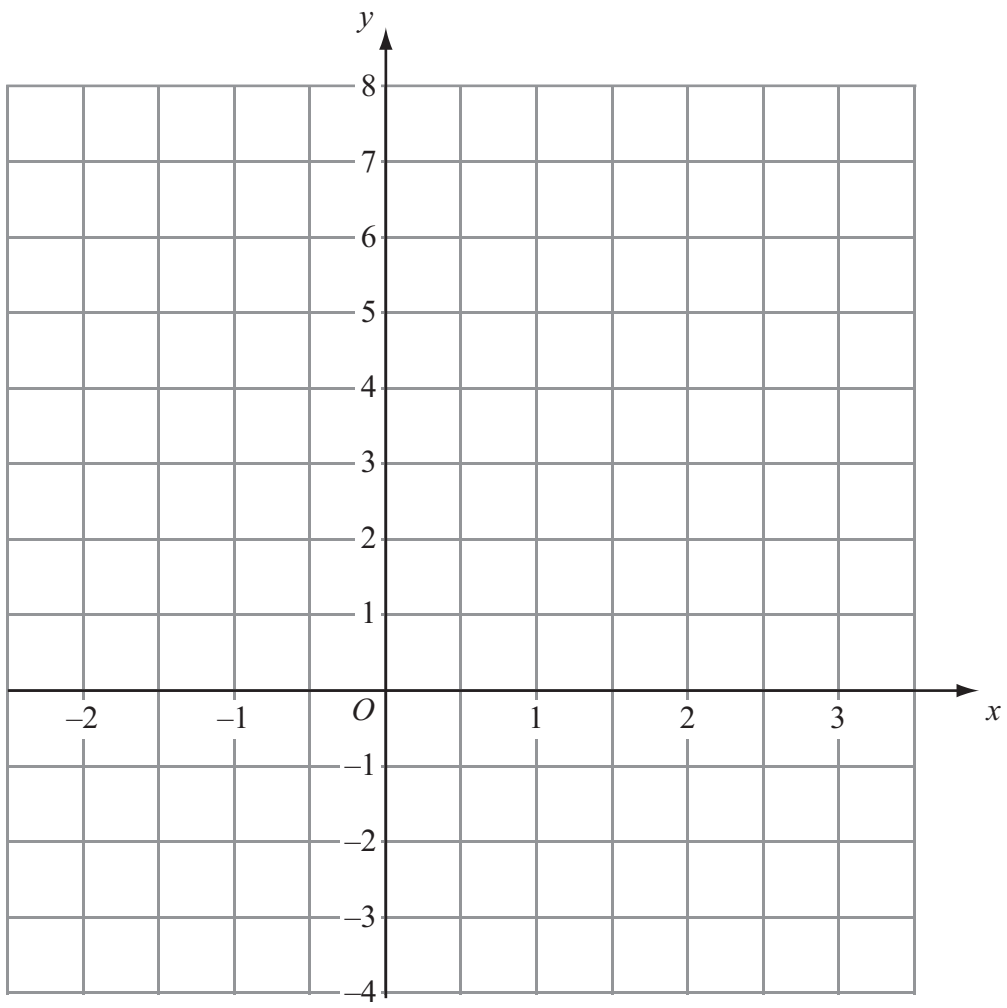
(Total 2 marks)

N 3 6 3 3 1 A 0 6 0 8

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Leave blank

10. On the grid, draw the graph of $y = 2x + 1$ for values of x from –2 to 3



Q10

(Total 3 marks)

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Leave blank

11.

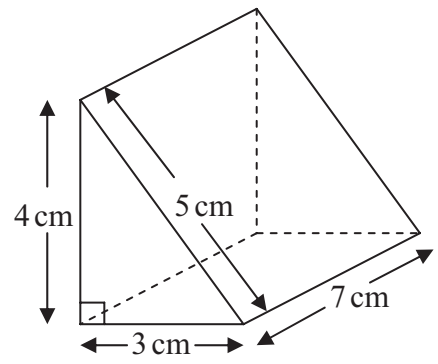


Diagram **NOT** accurately drawn

Work out the volume of the triangular prism.

..... cm^3

Q11

(Total 2 marks)

TOTAL FOR PAPER: 25 MARKS

END

N 3 6 3 3 1 A 0 8 0 8

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Mark Scheme (Results)

March 2010

GCSE

GCSE Mathematics (Modular) - 2381
Paper: 5383F/09

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March 2010

Publications Code UG 023184

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5383F/09					
Question		**Working**	**Answer**	**Mark**	**Notes**
1			14	2	B2 for 14 cao (B1 for 7 or 11 or 13)
2			70	1	B1 for 70 cao
3			11	2	M1 for 400 ÷ 34 or 4 ÷ 0.34 or 11.7(...) seen or for addition method leading to a total within 34p of £4 A1 cao
4	(a)		Radius drawn	2	B1 for radius drawn (do not accept diameter). Ignore extras if correct
	(b)		Sector drawn		B1 for sector drawn (accept semicircle)
5	(a)		2.3	1	B1 for 2.3 cao
	(b)		729	1	B1 for 729 cao
	(c)		64	1	B1 for 64 cao

5383F/09					
Question		**Working**	**Answer**	**Mark**	**Notes**
6		15.70 – 2.20 = 13.50 13.50 ÷ 1.50 = 9	9	3	M1 for 15.70 – 2.20 or 13.5(0) seen M1 (dep) for "13.50" ÷ 1.50 A1 cao OR M1 for an addition method involving 2.20 and 1.50s M1 (dep) for an addition method leading to a total within £1.50 of £15.70 A1 cao SC: If M0 then B1 for 15.70 ÷ 1.50 or 15.70 ÷ 3.70
7	(a)		$3f$	1	B1 for $3f$ (accept $f3$ or $3 \times f$ or $f \times 3$)
	(b)		$2cd$	1	B1 for $2cd$ (accept $2dc$, $cd2$, $dc2$ oe)
	(c)		$5x + 10$	1	B1 cao

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
8		7.29518(……)	2	M1 for 12.11 seen or 1.66 seen or $\frac{1211}{166}$ seen or 7.2 or 7.3 or better, rounded or truncated A1 for 7.29518 or better
9 (i)		30	2	B1 for 30 cao
(ii)		alternate angles		B1 for alternate angles (or Z angles), dep on 30 in (i) **or** co-interior angles, dep on 30 or 180 – 150 in (i) **or** allied angles, dep on 30 or 180 – 150 in (i) **or** corresponding angles (or F angles) **and** angles on a straight line (= 180), dep on 30 or 180 – 150 in (i) **or** corresponding angles (or F angles) **and** (vertically) opposite angles, dep on 30 in (i) **or** any other fully correct reason
10	x –2 –1 0 1 2 3 y –3 –1 1 3 5 7	Correct line	3	M2 for two correct points plotted or a correct straight line which does not cover the range x = -2 to x = 3 (M1 for one point correctly plotted or calculated or for a straight line through one correct point or for a straight line with gradient 2) A1 cao for correct line between x = – 2 and x = 3
11	$\frac{1}{2}$ x 3 x 4 x 7	42	2	M1 for $\frac{1}{2} \times 3 \times 4 \times 7$ or for 7 as part of a triple product A1 cao

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

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Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Friday 13 November 2009 – 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 10 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.

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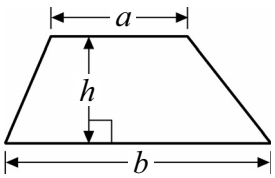
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GCSE Mathematics 2381

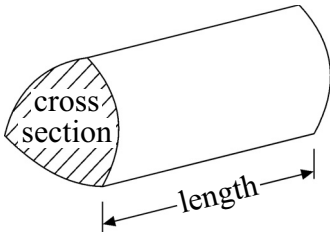
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



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N 3 4 9 8 5 A 0 2 0 8

Leave blank

Answer ALL TEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. Here is a solid prism made from centimetre cubes.

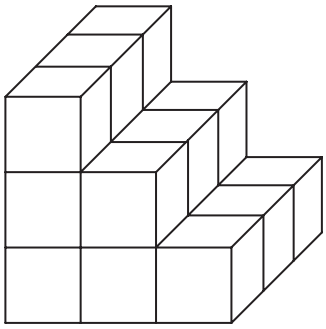


Diagram **NOT** accurately drawn

(a) Find the volume of the prism.

..... cm^3

(2)

Here is a cuboid.

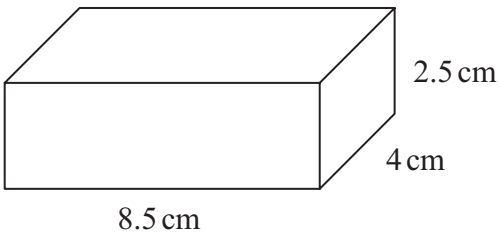


Diagram **NOT** accurately drawn

The length is 8.5 cm.
The width is 4 cm.
The height is 2.5 cm.

(b) Work out the volume of the cuboid.

..... cm^3

(2)

Q1

(Total 4 marks)

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2. 26 people are in a café.

21 of the people leave the café.
15 more people come in.

How many people are now in the café?

.....

(Total 2 marks)

Q2

3. (a) Find the square root of 2.25

.....

(1)

(b) Find the value of 3.5^2

.....

(1)

(c) Find the square of –3

.....

(1)

(d) Work out –8 – –4

.....

(1)

(Total 4 marks)

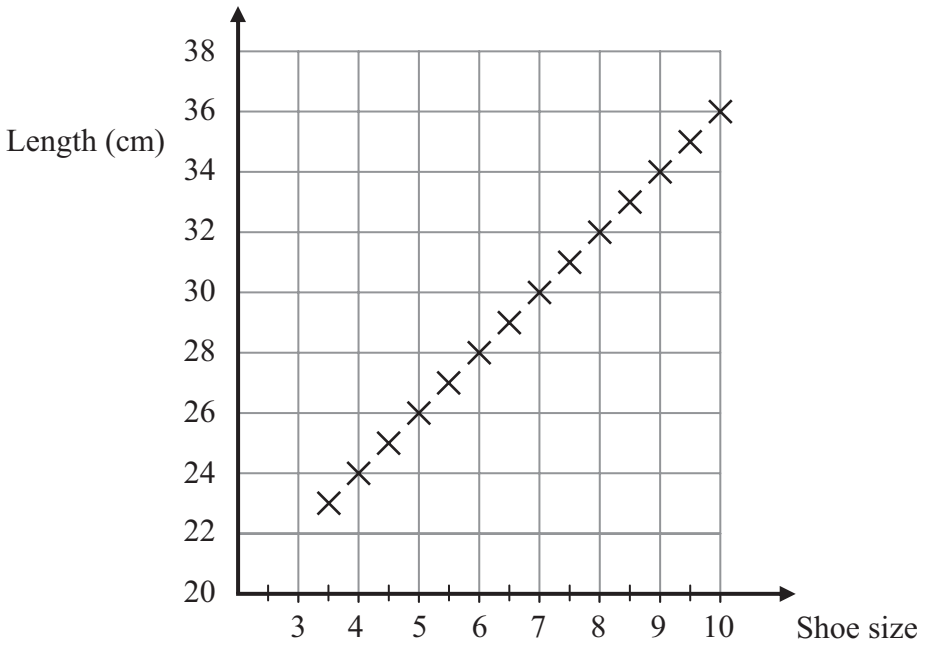
Q3

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4. Jamie measured the lengths, in cm, of some shoes.
All the shoes were the same style.

Each point on the graph represents a shoe size and the length of the shoe.



The size of a shoe is 7

(a) Write down the length of the shoe.

..... cm
(1)

The length of a shoe is 33 cm.

(b) Write down the shoe size.

.....
(1)

Q4

(Total 2 marks)

5. (a) Simplify $3^4 \times 3^2$
Write your answer as a power of 3

.....
(1)

(b) Simplify $5^5 \div 5^2$
Write your answer as a power of 5

.....
(1)

Q5

(Total 2 marks)

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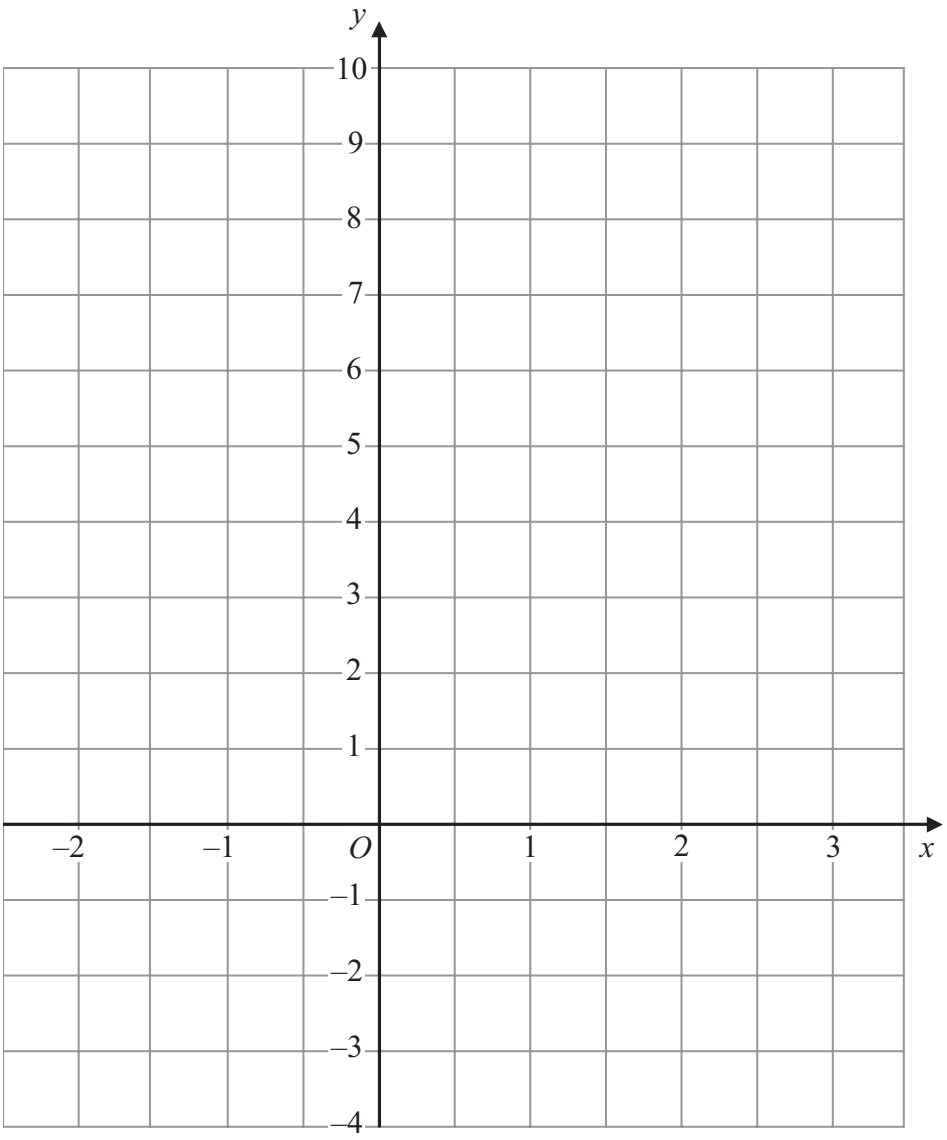
Leave blank

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

x	–2	–1	0	1	2	3
y		1		5		

(2)

(b) On the grid, draw the graph of $y = 2x + 3$



(2) **Q6**

(Total 4 marks)

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N 3 4 9 8 5 A 0 6 0 8

Leave blank

7.

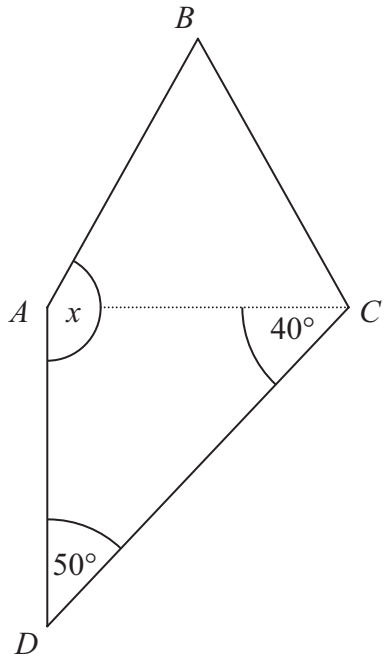


Diagram **NOT** accurately drawn

ABC is an equilateral triangle.
ACD is a right-angled triangle.

Work out the size of the angle marked *x*.

..... °

Q7

(Total 2 marks)

8. The length of a pencil is 11 cm correct to the nearest centimetre.

Write down the **least** possible length the pencil could be.

..... cm

Q8

(Total 1 mark)

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9. Expand and simplify $(x + 3)(x + 1)$

.....

(Total 2 marks)

Q9

10. Use your calculator to work out $\dfrac{12.7 - 4.5}{7.8 \times 2.5}$

Write down all the figures on your calculator display.
Give your answer as a decimal.

.....

(Total 2 marks)

Q10

TOTAL FOR PAPER: 25 MARKS

END

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Mark Scheme (Results)

November 2009

GCSE

GCSE Mathematics (Modular) - 2381
Paper: 5383F/09

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November 2009

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5383F/09					
Question		**Working**	**Answer**	**Mark**	**Notes**
1	(a)		18	2	B2 for 18 (B1 for 6 or 12)
	(b)	8.5 × 4 × 2.5	85	2	M1 for 8.5 × 4 × 2.5 A1 for 85
2		26 + 15 – 21	20	2	M1 for 26 + 15 - 21 **or** 41 – 21 **or** 5 + 15 **or** 26 – 6 A1 for 20
3	(a)		1.5	1	B1 for 1.5 , $\frac{3}{2}$, $1\frac{1}{2}$
	(b)	3.5 × 3.5	12.25	1	B1 for 12.25, 12¼, $\frac{49}{4}$
	(c)		9	1	B1 cao
	(d)	– 8 + 4	– 4	1	B1 cao
4	(a)		30	1	B1 cao
	(b)		8½	1	B1 accept 8.5, 8 and a half oe
5	(a)		3^6	1	B1 accept 3^{4+2}
	(b)		5^3	1	B1 accept 5^{5-2}

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
6 (a)	–1, (1), 3, (5), 7, 9	–1, (1), 3, (5), 7, 9	2	B2 for 4 values correct (B1 for 2 or 3 values correct)
(b)		Line drawn	2	M1 for plotting at least 5 of their points correctly **or** single straight line with positive gradient passing thro' (0,3) from x=-2 to x=3 **or** single straight line of gradient 2 from x=-2 to x=3 **or** correct straight line that passes through 3 correct points A1 cao for straight line from at least (-2,-1) to (3,9)
7		150º	2	M1 for identifying angle BAC as 60º **or** 180/3 seen **or** identifying angle CAD as 90º **or** 50 + 40 + 90 = 180 **or** 180 – 90 **or** 180 – 40 – 50 (NB. Answer of 90 alone on answer line scores M0) A1 for 150º
8		10.5	1	B1 cao
9	$x^2 + 3x + x + 3$	$x^2 + 4x + 3$	2	M1 for 4 terms correct with or without signs or 3 correct **in each case there must be a maximum of 4 terms** (the terms may be in an expression or table) **or** $x(x + 3) + 1(x + 3)$ **or** $x(x + 1) + 3(x + 1)$ A1 cao
10		0.42051(28205)	2	M1 for 8.2 oe **or** 19.5 oe **or** $\frac{82}{195}$ A1 for 0.42051(28205)

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

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Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Thursday 11 June 2009 – 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 10 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.
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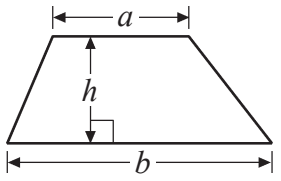
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GCSE Mathematics

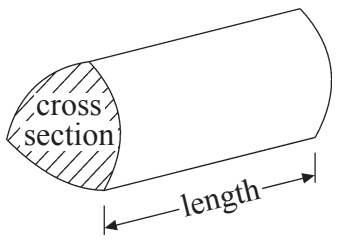
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length



N 3 4 0 7 9 A 0 2 0 8

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Leave blank

Answer ALL TEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. (a) Write 25.2 to the nearest whole number.

.....

(1)

(b) Write $\frac{1}{5}$ as a decimal.

.....

(1)

(c) Write 27% as a fraction.

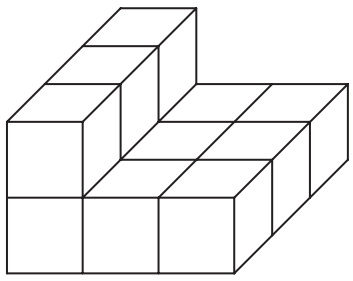
.....

(1)

Q1

(Total 3 marks)

2. Here is a solid prism made from centimetre cubes.



Find the volume of the prism.

..... cm^3

(Total 2 marks)

Q2

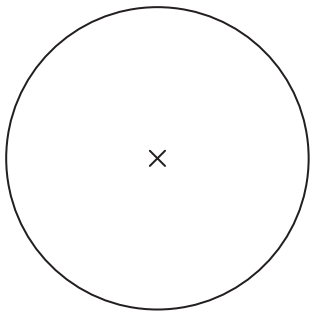
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3. In the circle, draw a diameter.



(Total 1 mark)

Q3

4. (a) Find the square root of 196

.....

(1)

(b) Find the cube of 7

.....

(1)

(Total 2 marks)

Q4

5. (a) Simplify $m + m + m$

.....

(1)

(b) Simplify $y \times y$

.....

(1)

(c) Simplify fully $3a - 4b + 2a + 5b$

.....

(2)

(Total 4 marks)

Q5

N 3 4 0 7 9 A 0 4 0 8

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6. Work out 35% of 240

.....

Q6

(Total 2 marks)

7.

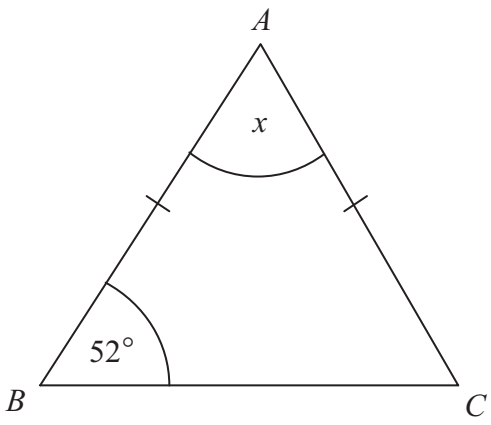


Diagram **NOT** accurately drawn

In the diagram,
$AB = AC$,
Angle $ABC = 52°$.

(a) Work out the size of the angle marked x.

.....
°

(2)

(b) Give a reason for your answer.

.....

(1)

Q7

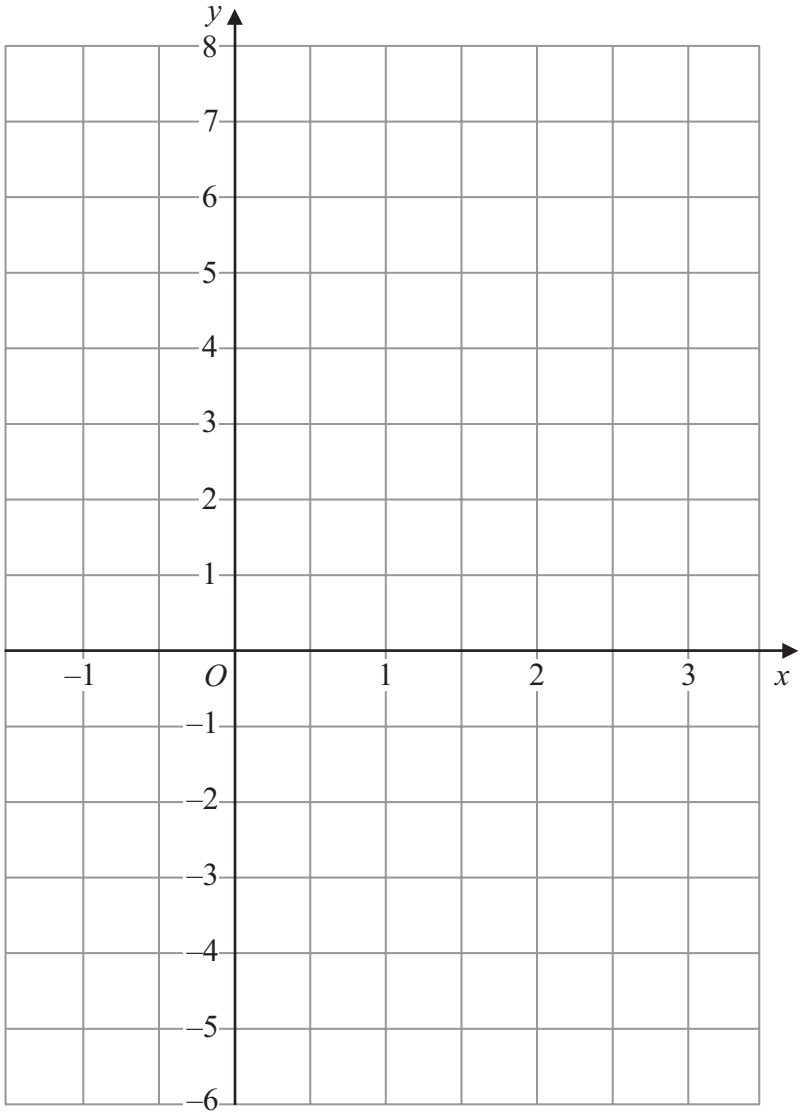
(Total 3 marks)

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Leave blank

8. Draw the graph of $y = 3x - 2$ for values of x from -1 to 3



Q8

(Total 3 marks)

N 3 4 0 7 9 A 0 6 0 8

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Leave blank

9. Work out $\dfrac{3.4^2 - 2.6^2}{1.6}$

.....

Q9

(Total 2 marks)

10. John travelled 30 km in 1.5 hours.
Kamala travelled 42 km in 2 hours.

Who had the greater average speed?
You must show your working.

.....

Q10

(Total 3 marks)

TOTAL FOR PAPER: 25 MARKS

END

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Edexcel GCSE

Mathematics 2381

Summer 2009

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Mark Scheme (Results)

Edexcel GCSE
Mathematics 2381

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
1 (a)		25	1	B1 for 25 cao
(b)		0.2	1	B1 for 0.2 cao
(c)		$\frac{27}{100}$	1	B1 for $\frac{27}{100}$ cao
2		12	2	B2 for 12 cao (B1 for 10 or 11)
3		Diameter drawn	1	B1 for a diameter drawn
4 (a)		14	1	B1 for 14 cao
(b)	$7\times7\times7$	343	1	B1 for 343 cao
5 (a)		$3m$	1	B1 for $3m$ (accept $m3$)
(b)		y^2	1	B1 for y^2 cao
(c)		$5a+b$	2	B2 for $5a+b$ cao (B1 for $5a$ or b or $1b$)
6	$\frac{35}{100}\times240=$	84	2	M1 for $\frac{35}{100}\times240$ or 0.35×240 or 35×2.4 or 24 + 24 + 24 +12 or for any complete method. A1 for 84 cao

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5383F/09				
Question	**Working**	**Answer**	**Mark**	**Notes**
7 (a)	180 – 2×52 =	76	2	M1 for 180 – '2×52' A1 for 76 cao
(b)		reason	1	B1 for isosceles or angles in a triangle sum to 180º
8	<table><tr><td>*x*</td><td>-1</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>*y*</td><td>-5</td><td>-2</td><td>1</td><td>4</td><td>7</td></tr></table>	Straight line	3	M2 for two correct points plotted or a correct straight line which does not cover the range $x = -1$ to $x = 3$ (M1 for one point correctly plotted or calculated or a straight line through one correct point) A1 for correct line between -1 and 3 OR M1 for line with correct gradient M1 for line with correct *y* intercept A1 for correct line between -1 and 3
9	$3.4^2 - 2.6^2 = 4.8$ $4.8 \div 1.6 =$	3	2	M1 for $3.4 \times 3.4 - 2.6 \times 2.6$ with evidence of multiplication or 11.56 or 6.76 or 4.8 or 289/25 or 169/25 or 24/5 A1 for 3 cao (SC B1 for 7.335 or 1467/200)

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Question	**Working**	**Answer**	**Mark**	**Notes**
10	$\frac{30}{1.5} = 20$ $\frac{42}{2} = 21$	Kamala	3	M1 for $\frac{30}{1.5}$ or $\frac{42}{2}$ (accept minutes) A1 for 20 and 21 A1 for Kamala cao Note: answer only scores M0 A0 A0 **Alternative method:** M1 for 10 km in 0.5 hours A1 for 40 km in 2 hours A1 for Kamala cao **OR** M1 for 10.5 km in 0.5 hours A1 for31.5 km in 1.5 hours A1 for Kamala cao **OR** M1 for 60 km in 3 hours or 63 km in 3 hours A1 for 60 km in 3 hours and 63 km in 3 hours A1 for Kamala cao **OR** M1 for 10 km in 30 minutes or 10.5 km in 30 minutes A1 for 60 km in 30 minutes and 10.5 km in 30 minutes A1 for Kamala cao

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Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	3	F	/	0	9	Signature	

Paper Reference(s)

5383F/09

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 9 (Calculator)

Foundation Tier



Unit 2 Stage 2

Tuesday 3 March 2009 – 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 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 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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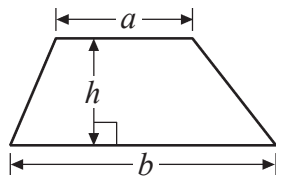
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GCSE Mathematics 2381

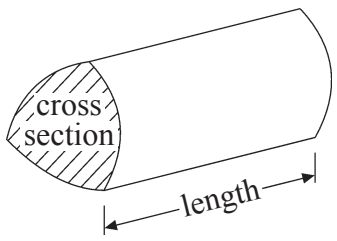
Formulae: Foundation Tier

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

Area of trapezium = $\frac{1}{2}(a+b)h$



Volume of prism = area of cross section × length



N 3 4 6 7 6 A 0 2 0 8

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Leave blank

Answer ALL NINE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. (a) Find the square of 6

.....

(1)

(b) Find the square root of 225

.....

(1)

(c) Find the value of 10^3

.....

(1)

Q1

(Total 3 marks)

2. There were 34 coins in a bag.
Jim took 15 coins out of the bag.
Rose put 17 coins into the bag.

How many coins are now in the bag?

.....

Q2

(Total 2 marks)

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3. (a) Change $\frac{1}{4}$ to a decimal.

.....

(1)

(b) Find 10% of £50

£ .....

(1)

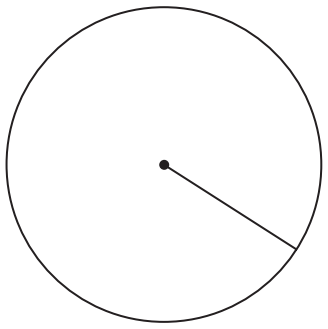
Q3

(Total 2 marks)

4. Here are some words which describe parts of a circle.

Radius	Diameter	Sector
Chord	Tangent	Segment

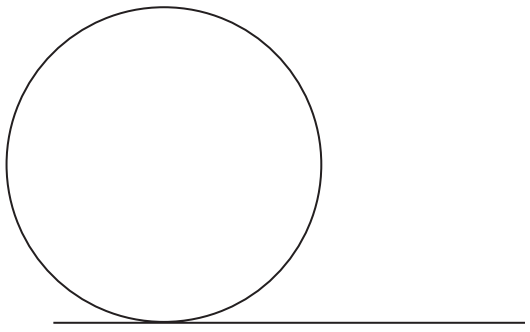
(a) Write down the mathematical name of the straight line shown in this diagram.
Use one of the words from the box.



.....

(1)

(b) Write down the mathematical name of the straight line shown in the diagram.
Use one of the words from the box.



.....

(1)

Q4

(Total 2 marks)

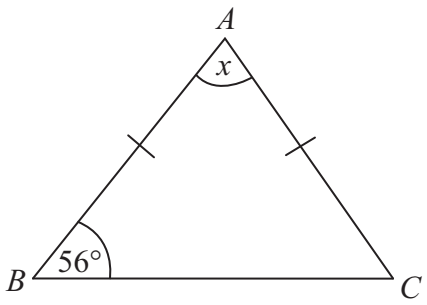
N 3 4 6 7 6 A 0 4 0 8

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5.

Diagram **NOT** accurately drawn



The diagram shows an isosceles triangle.
$AB = AC$
Angle $CBA = 56°$

(a) Work out the size of the angle marked x.

.....°

(2)

(b) Give reasons for your answer.

.....

.....

(1)

Q5

(Total 3 marks)

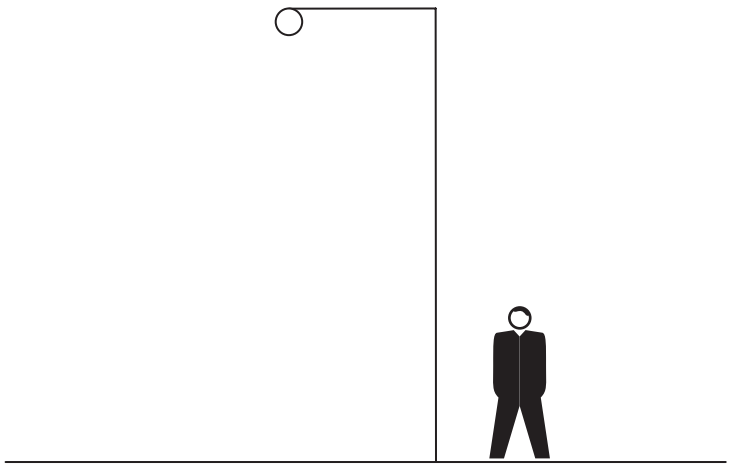
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Leave blank

6.



The diagram shows a man standing next to a lamppost.
The man is of normal height.

(a) Write down an estimate for the height, in metres, of the man.

..... m
(1)

(b) Estimate the height, in metres, of the lamppost.

..... m
(2)

Q6

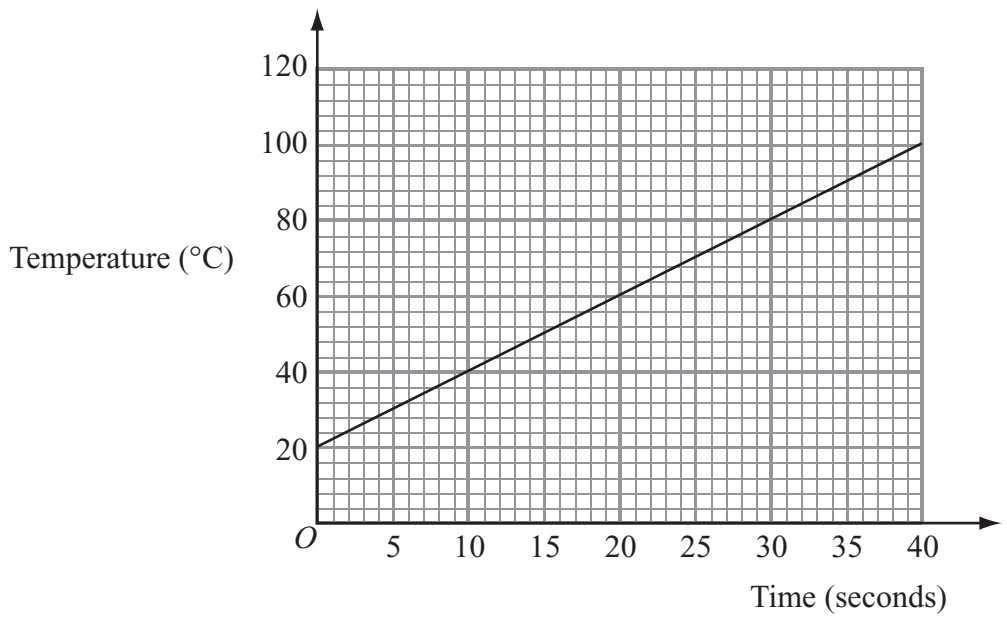
(Total 3 marks)

N 3 4 6 7 6 A 0 6 0 8

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Leave blank

7. Joe heats some water in a kettle.
The graph gives information about the temperature of the water in the kettle and the length of time it has been heated.



(a) Write down the temperature of the water when Joe started to heat the water.

..... °C
(1)

(b) Use the graph to find how many seconds it took the water to reach a temperature of 70°C.

..... seconds
(1)

(c) Work out the increase in the temperature of the water from the 10th second to the 35th second.

..... °C
(2)

(Total 4 marks)

Q7

N 3 4 6 7 6 A 0 7 0 8

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8. (a) Expand and simplify $4(2x + 5) + 2(3x - 2)$

.....

(2)

(b) Factorise $y^2 - 4y$

.....

(1)

Q8

(Total 3 marks)

9. (a) Use your calculator to work out $\frac{26.4 + 8.2}{\sqrt{5.76}}$ as a decimal.

Write down all the figures on your calculator display.

.....

(2)

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

.....

(1)

Q9

(Total 3 marks)

TOTAL FOR PAPER: 25 MARKS

END

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Edexcel GCSE

Mathematics 2381

March 2009

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Mark Scheme (Results)

Edexcel GCSE
Mathematics 2381

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5383F/09					
Question		Working	Answer	Mark	Notes
1	(a)		36	1	B1 cao accept answer in words, ignore spelling
	(b)		15	1	B1 cao accept answer in words, ignore spelling
	(c)		1000	1	B1 cao accept answer in words, ignore spelling
2		34 -15 + 17	36	2	M1 34 -15 + 17 or 34 + 2 or 34 + 17 – 15 oe or sight of 19 or 51 A1 cao (accept if 36p seen) B1 SC for 2 seen as their answer
3	(a)		0.25	1	B1 cao
	(b)		5	1	B1 cao
4	(a)		Radius	1	B1 ignore spelling
	(b)		Tangent	1	B1 ignore spelling
5	(a)	180 – 56 – 56	68	2	M1 for use of two base angles in an isosceles triangle or sight of 56 marked on diagram for angle *C*. This may be given for 112° seen A1 cao
	(b)	Base angles of isosceles triangle are equal Sum of angles in a triangle is 180° (oe)	Full reasons	1	B1 for Two(base) angles or B and C (in an isosceles triangle are) equal or two equal sides so two equal angles or equal angles are opposite equal sides **and** (Angles) in a triangle (add to) 180°

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Question		**Working**	**Answer**	**Mark**	**Notes**
6	(a)		1.5 – 2.0	1	B1 1.5 – 2.0m inclusive (accept imperial equivalent, where units have been changed in the range 5'6" to 6'6")
	(b)		4.5 – 6.0	2	M1 ft from their evidence of use of man as a scale in the range 2.5 to 3 (With or Without Working) A1 ft from (a) or 4.5 – 6.0 inclusive
7	(a)		20	1	B1 cao
	(b)		25	1	B1 accept answer in range $24 \le t \le 26$
	(c)	90-40	50	2	M1 picks 10th and 35th seconds ft ± 1 square, can be implied by sight of 90 ± 2 **or** 40 ± 2, or marks on the graph at (10, 40) **and** (35, 90) A1 (48 to 52 inclusive)
8	(a)	$4(2x+5)+2(3x-2)$ $8x+20+6x-4$	$14x+16$	2	M1 for either $8x+20$ or $6x-4$ or $4\times 2x+4\times 5$ or $2\times 3x-2\times 2$ or $14x$ or $+16$ A1 for $14x+16$
	(b)		$y(y-4)$	1	B1
9	(a)	$\frac{26.4+8.2}{\sqrt{5.76}}=\frac{34.6}{2.4}$	14.4166(6667)	2	B2 14.4166(6667) accept $\frac{173}{12}$ or $14\frac{5}{12}$ or $14.41\dot{6}$ (B1 for 34.6 or 2.4 seen)
	(b)		14.42	1	B1 ft from "14.4166…" assuming original is to 3 d.p. or more

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