Centre No.						Paper Reference								Surname	Initial(s)
Candidate No.						5	3	8	4	F	/	1	2	F	Signature

Paper Reference(s)

5384F/12F

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 12 (Calculator)

Foundation Tier

Unit 3

Tuesday 10 November 2009 – Morning

Time: 1 hour

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 20 questions in this question paper. The total mark for this paper is 60.
There are 16 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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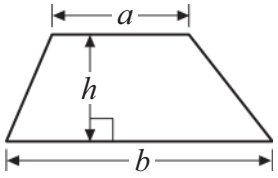
GCSE Mathematics 2381

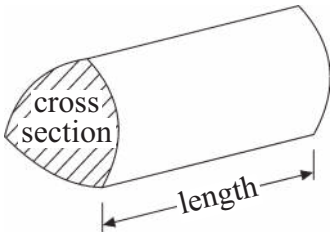
Formulae: Foundation Tier

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



Leave blank

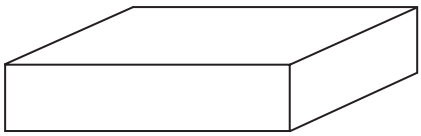
Answer ALL TWENTY questions.

Write your answers in the spaces provided.

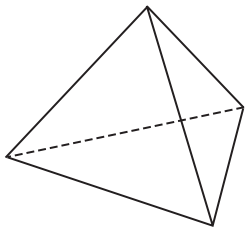
You must write down all stages in your working.

1. (a) Write down the name of each of these two 3-D shapes.

(i)



(ii)



(i) ..... (ii) .....

(2)

(b) In the space below, sketch a cone.

(1)

Q1

(Total 3 marks)

Leave blank

2. Pencils cost 35p each.
Simon has £5 to spend.

Work out the greatest number of these pencils he can buy.

.....

Q2

(Total 2 marks)

3. In the space below, draw accurately a circle with radius 5 cm.
Use the point marked with a cross (×) as the centre of your circle.

×

Q3

(Total 1 mark)

Leave blank

4. Here is part of a bus timetable.

Bourne	07 40	08 00	08 30	09 00
Baston	07 52	08 12	08 42	09 12
Market Deeping	08 00	08 20	09 00	09 20
Northborough	08 04	08 24	09 04	09 24
Glinton	08 08	08 28	09 08	09 28
Peterborough	08 22	08 42	09 20	09 40

A bus leaves Bourne at 08 00

(a) At what time should this bus get to Peterborough?

.....

(1)

Vanessa catches a bus in Baston.
She has to go to Glinton.
She needs to arrive in Glinton **before** 08 45

(b) Write down the time of the latest bus she can catch from Baston.

.....

(1)

The 09 00 bus from Bourne takes less time to get to Peterborough than the 08 30 bus from Bourne.

(c) Work out how many minutes less.

..... minutes

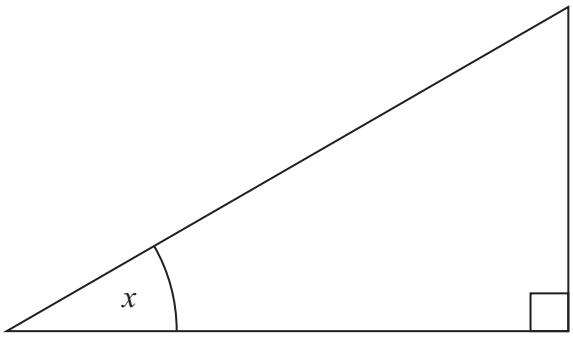
(2)

Q4

(Total 4 marks)

Leave blank

5. Here is a triangle.



(a) What type of triangle is it?

.....

(1)

(b) Measure the size of the angle marked x.

° .....

(1)

Q5

(Total 2 marks)

6. Rizwan drives a van.
He is paid 37p for each mile he drives.

One day Rizwan writes down the distance readings from his van.

Start of day:	5	6	0	4	miles
End of day:	5	7	6	0	miles

Work out how much Rizwan is paid for this day's driving.

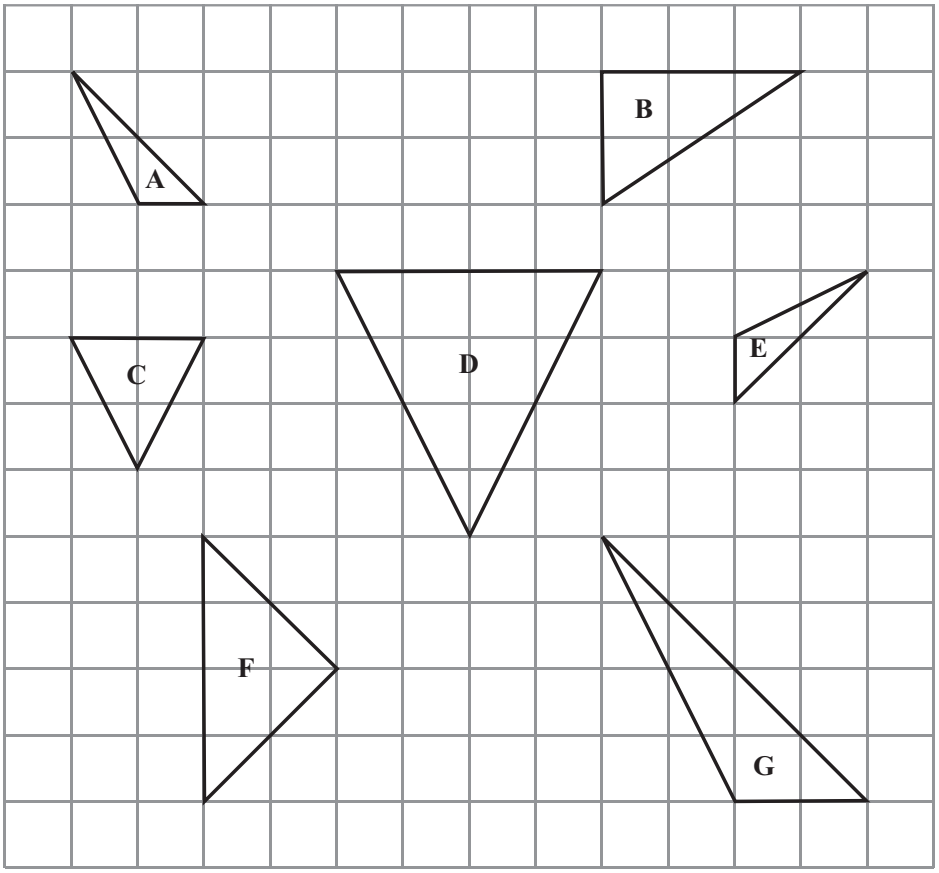
£ .....

Q6

(Total 4 marks)

Leave blank

7. Here are 7 triangles drawn on a grid.



(a) Write down the letter of a right-angled triangle.

.....

(1)

Dale says, "Triangle **C** is congruent to triangle **D**".
Dale is **wrong**.

(b) Explain why.

.....

(1)

(c) Write down the letters of the two triangles which are congruent.

..... and .....

(1)

Triangle **G** is an enlargement of triangle **A**.

(d) Write down the scale factor of this enlargement.

.....

(1)

Q7

(Total 4 marks)

Leave blank

8. $P = t + 5$

(a) Work out the value of P when $t = 2$

.....

(1)

$Q = 4w - 2$

(b) Work out the value of Q when $w = 3$

.....

(2) **Q8**

(Total 3 marks)

9. Matthew thinks of a number.

He multiplies the number by 4
He then subtracts 3

His answer is 37

What number did Matthew first think of?

Q9

.....

(Total 2 marks)

Leave blank

10. Work out $\frac{2}{5}$ of 80

.....

Q10

(Total 2 marks)

11.

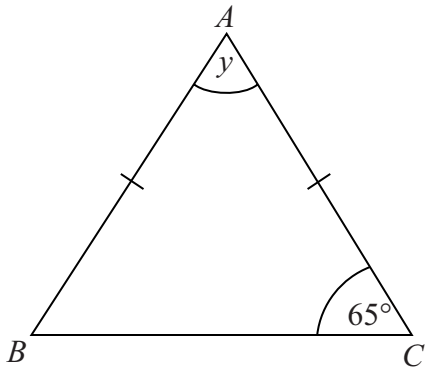


Diagram **NOT** accurately drawn

ABC is a triangle.
AB = *AC*.

(i) Work out the size of the angle marked *y*.

.....°

(ii) Give reasons for your answer.

.....

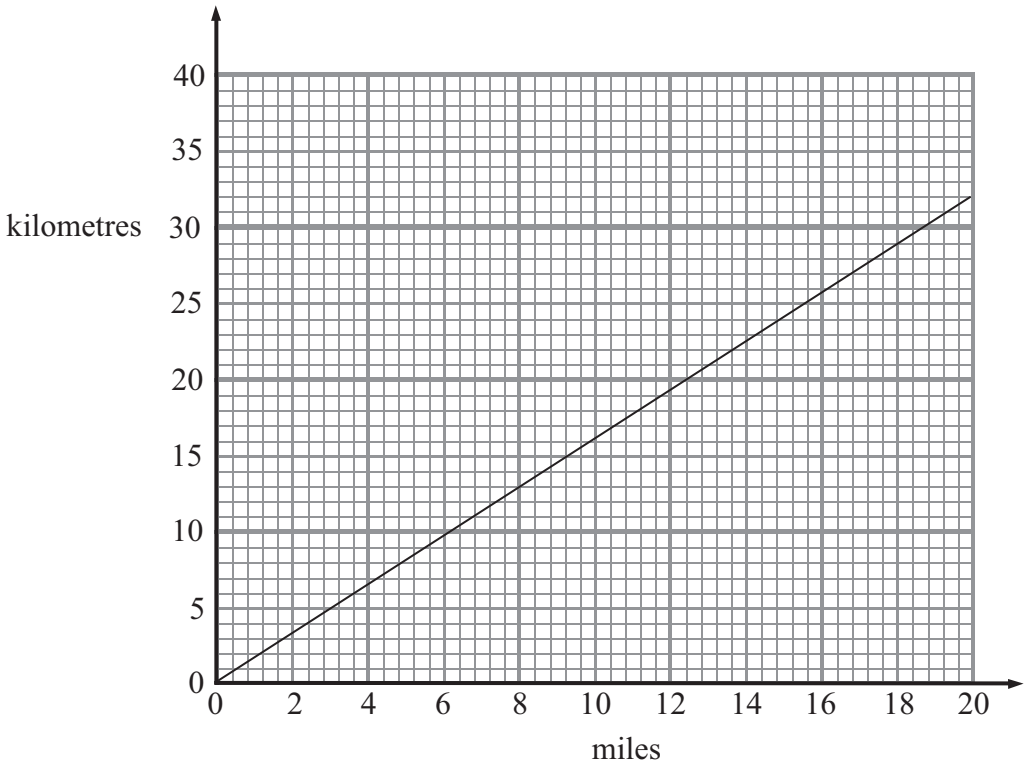
.....

Q11

(Total 3 marks)

Leave blank

12. The graph can be used for changing between miles and kilometres.



(a) Use the graph to change 12 miles to kilometres.

..... kilometres
(1)

(b) Use the graph to change 10 kilometres to miles.

..... miles
(1)

Q12

(Total 2 marks)

Leave blank

13.

Prices	
Apples	£2.00 per kg
Oranges	£0.34 each
Tomatoes	£2.40 per kg

Emma buys

1 kg of apples

2 oranges

$\frac{3}{4}$ kg tomatoes

Work out the total cost.

£ .....

Q13

(Total 4 marks)

Leave blank

14. Colin goes to Switzerland.
The exchange rate is £1 = 2.30 francs.

He changes £400 into francs.

(a) How many francs should he get?

..... francs
(2)

In Switzerland, Colin buys a hat.
The cost of the hat is 46 francs.

(b) Work out the cost of the hat in pounds.

£ .....
(2)

Q14

(Total 4 marks)

Leave blank

15. (a) Solve $m + 5 = 12$

$m =$ .....

(1)

(b) Solve $3n = 36$

$n =$ .....

(1)

(c) Solve $\frac{x}{5} = 10$

$x =$ .....

(1)

(d) Solve $4y + 7 = 13$

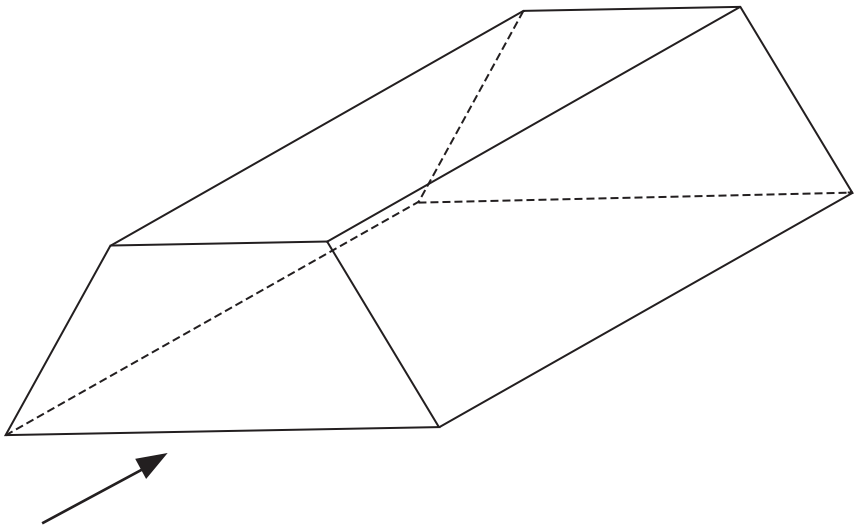
$y =$ .....

(2)

Q15

(Total 5 marks)

16.



The diagram shows a prism.

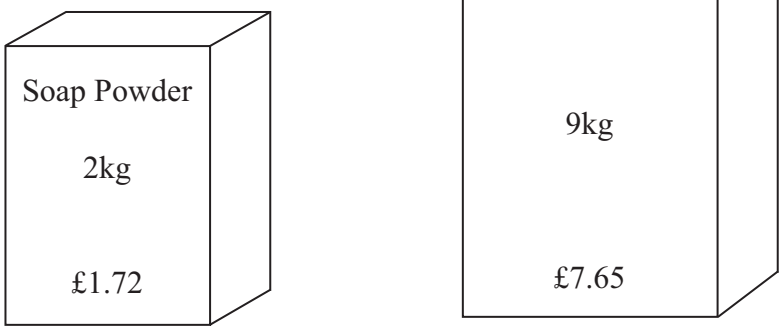
In the space below, sketch the front elevation from the direction marked with an arrow.

Q16

(Total 2 marks)

Leave blank

17. Soap powder is sold in two sizes of box.



Small box Large box

A small box contains 2 kg of soap powder and costs £1.72
A large box contains 9 kg of soap powder and costs £7.65

Which size of box gives the better value for money?

.....

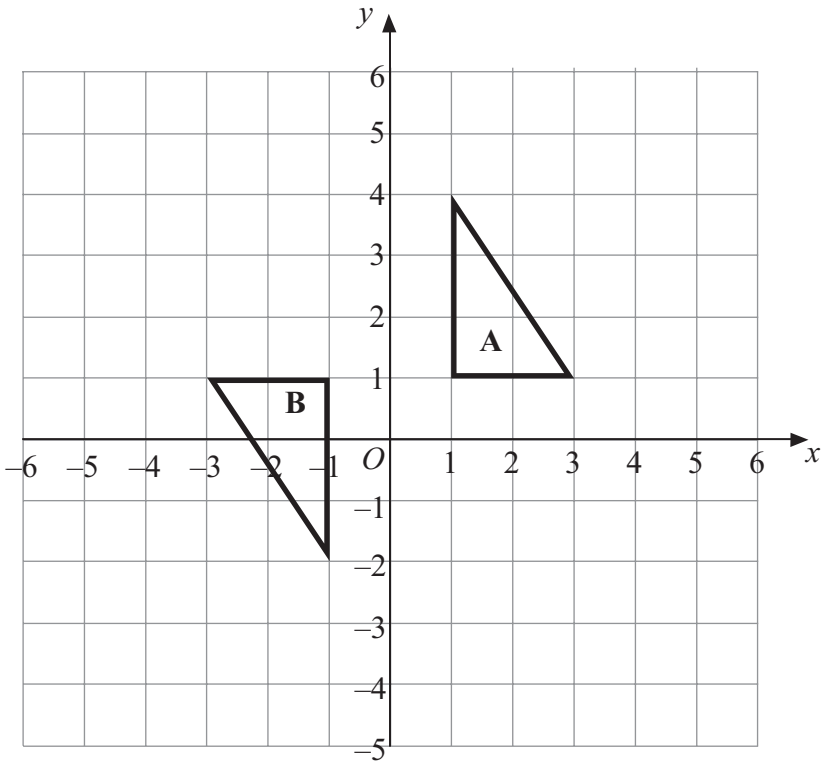
Explain your answer.
You must show all your working.

Q17

(Total 3 marks)

Leave blank

18.



Describe fully the single transformation that maps triangle **A** onto triangle **B**.

.....

.....

Q18

(Total 3 marks)

19. A piece of wood is 180 cm long.
Tom cuts it into three pieces in the ratio 2 : 3 : 4

Work out the length of the longest piece.

..... cm

Q19

(Total 3 marks)

Leave blank

20. The equation

$$x^3 + 2x = 60$$

has a solution between 3 and 4

Use a trial and improvement method to find this solution.
Give your answer correct to 1 decimal place.
You must show all your working.

$x =$ .....

Q20

(Total 4 marks)

TOTAL FOR PAPER: 60 MARKS

END