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

Friday 11 June 2010 – 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 19 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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Turn over

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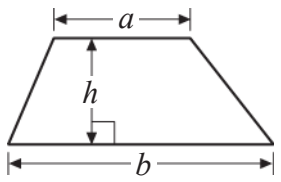
GCSE Mathematics

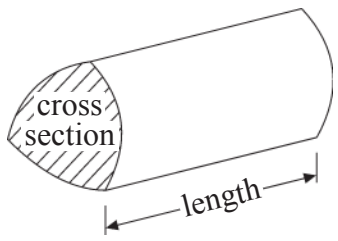
Formulae: Foundation Tier

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



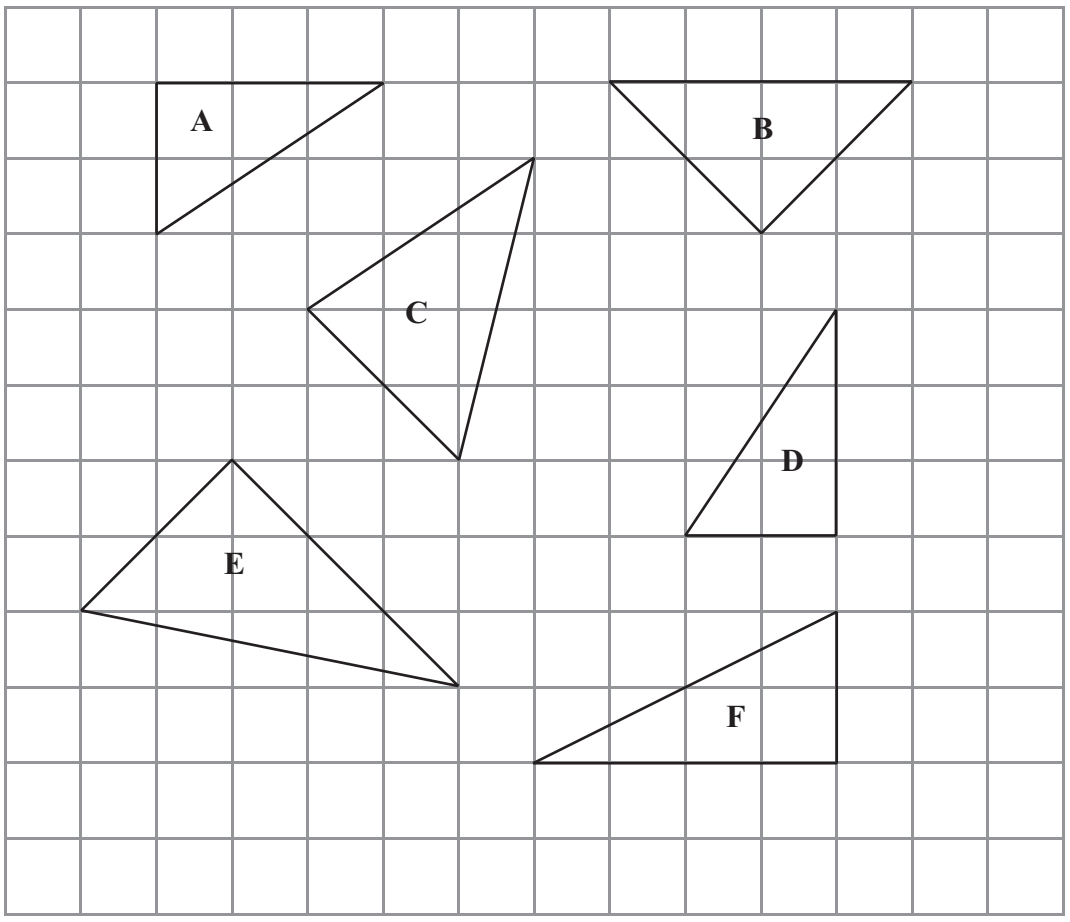
Leave blank

Answer ALL NINETEEN questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1.



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

..... and .....

(1)

(b) Write down the letter of the isosceles triangle.

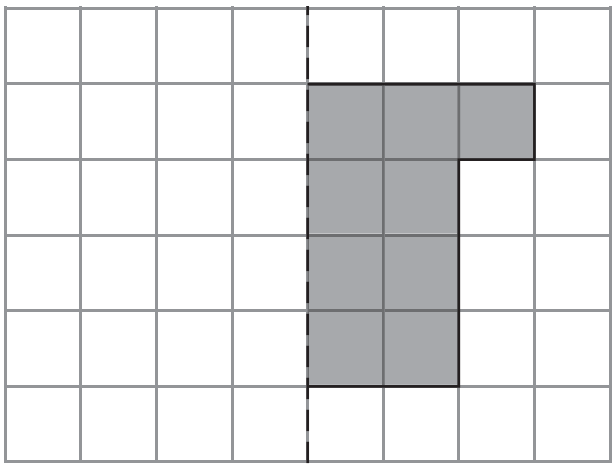
.....

(1) **Q1**

(Total 2 marks)

Leave blank

2.



Mirror line

Reflect the shaded shape in the mirror line.

Q2

(Total 1 mark)

3.

Length 6 inches

Width 4 inches

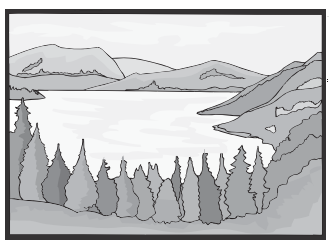


Diagram **NOT** accurately drawn

The length of the photograph is 6 inches.
The width of the photograph is 4 inches.

The photograph is to be enlarged by scale factor 2

Work out the length and the width of the enlarged photograph.

Length ..... inches

Width ..... inches

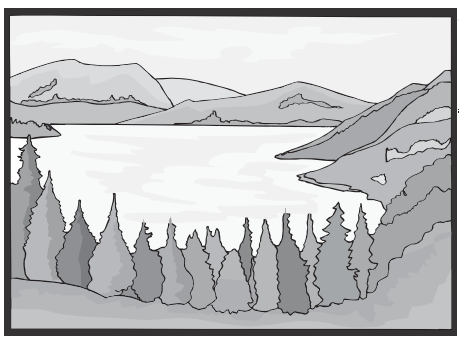


Diagram **NOT** accurately drawn

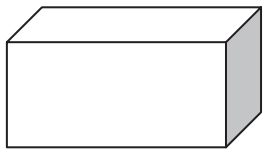
Q3

(Total 2 marks)

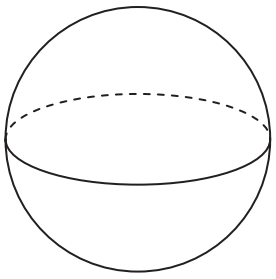
Leave blank

4. Write down the mathematical name for each of these 3-D shapes.

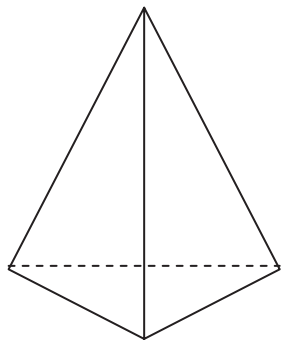
(i)



(ii)



(iii)

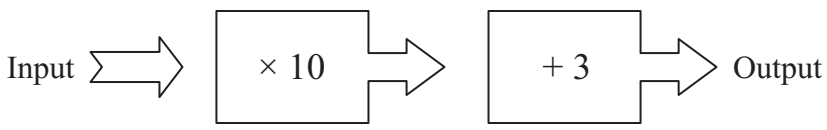


(i) ..... (ii) ..... (iii) .....

Q4

(Total 3 marks)

5. Here is a two-stage number machine.
It multiplies by 10 and then adds 3



Complete the table.

Input	Output
1	13
2	23
5	.....
8	83
.....	103

Q5

(Total 2 marks)

Turn over

Leave blank

6. Draw a circle of radius 5 cm.
Use the point O, marked with a ($\times$), as the centre of your circle.

$\times\ O$

Q6

(Total 1 mark)

7. (a) Write $\frac{3}{4}$ as a percentage.

..... %
(1)

(b) Work out 10% of 60

.....
(2)

(c) Work out $\frac{3}{5}$ of 40

.....
(2)

Q7

(Total 5 marks)

Leave blank

8. The table shows the temperatures, in London, at different times on New Years Day, 2008

Time of day	Temperature
6 am	−3°C
10 am	0°C
noon	2°C
2 pm	5°C
6 pm	4°C
10 pm	−1°C

(a) Write down the lowest temperature.

..... °C
(1)

(b) Work out the difference in temperature between 6 pm and 10 pm.

..... °C
(1)

From 10 pm to midnight the temperature fell by 3°C from –1°C.

(c) What was the temperature at midnight?

..... °C
(1)

Q8

(Total 3 marks)

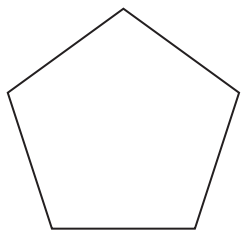
Leave blank

9. Here is a rectangle.

(a) Draw all the lines of symmetry of this rectangle.

(2)

Here is a regular pentagon.

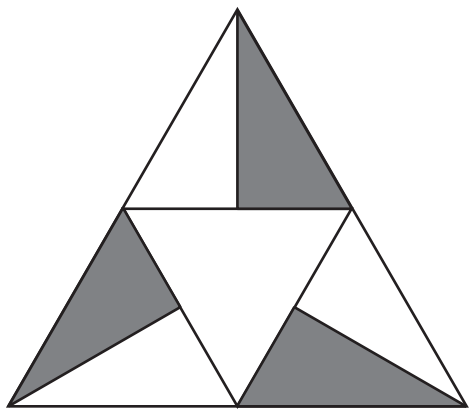


(b) Write down the order of rotational symmetry of this regular pentagon.

.....

(1)

Here is a shape.



(c) Write down the order of rotational symmetry of this shape.

.....

(1)

Q9

(Total 4 marks)

Leave blank

10. Tulips cost 85p each.
Sara has £20 to spend on tulips.
She buys the greatest possible number of tulips.

(a) Work out the number of tulips Sara buys.

..... tulips
(2)

Sara pays with a £20 note.

(b) Work out how much change Sara should get.

..... p
(2)

Q10

(Total 4 marks)

Leave blank

11. Here is part of a train timetable for six trains from Birmingham to London.

Train	**A**	**B**	**C**	**D**	**E**	**F**
Birmingham	06 35	07 00	07 15	07 30	07 45	08 00
London	08 09	08 39	08 48	09 04	09 59	09 39

(a) Which train takes more than 2 hours to go from Birmingham to London?

.....

(1)

(b) Work out the number of **minutes** taken by train **D** to go from Birmingham to London.

..... minutes

(2)

Paula has to go to a meeting in London.
She will catch one of the six trains from Birmingham.
She needs to arrive in London before 09 00

(c) Write down the latest train that she can catch.

.....

(1)

Q11

(Total 4 marks)

Leave blank

12. This rule is used to work out the total charge for hiring any ladder.

Total charge = £20 plus £5 for each day of hire

Esme hired a ladder for 6 days.

(a) Work out the total charge.

£ .....

(2)

William hired a different ladder.
The total charge was £65

(b) Work out the number of days William hired the ladder for.

..... days

(3)

Q12

(Total 5 marks)

Leave blank

13. Here is a sketch of a triangle.

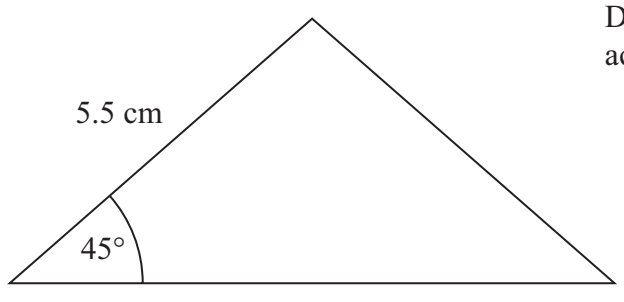


Diagram **NOT** accurately drawn

In the space below, make an accurate drawing of this triangle.
The 9 cm line has been drawn for you.

Q13

(Total 2 marks)

14. (a) Solve $8x - 3 = 17$

$x =$ .....

(2)

(b) Solve $\frac{2y}{3} = 9$

$y =$ .....

(2)

Q14

(Total 4 marks)

Leave blank

15. A school has 4 new televisions.
It has 12 old televisions.

(a) Write, as a ratio, the number of new televisions to the number of old televisions.
Give your ratio in its simplest form.

.....

(2)

The price of a new television is £400
The school gets 15% off the price of this new television.

(b) Work out how much the school pays for this television.

£.....

(2)

Q15

(Total 4 marks)

Leave blank

16. In August 2008, Eddie hired a car in Italy.

The cost of hiring the car was £620
The exchange rate was £1 = €1.25

(a) Work out the cost of hiring the car in euros (€).

€ .....

(2)

Eddie bought some perfume in Italy.

The cost of the perfume in Italy was €50
The cost of the same perfume in London was £42

The exchange rate was still £1 = €1.25

(b) Work out the difference between the cost of the perfume in Italy and the cost of the perfume in London.
Give your answer in pounds (£).

£ .....

(3)

Q16

(Total 5 marks)

Leave blank

17. The equation

$$x^3 + 10x = 25$$

has a solution between 1 and 2

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

$x =$ .....

Q17

(Total 4 marks)

18. A circle has a diameter of 12 cm.

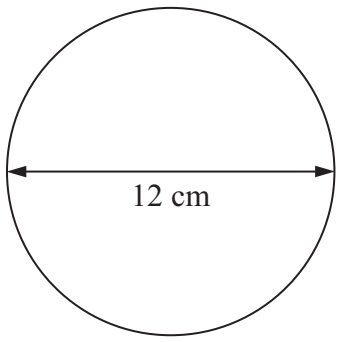


Diagram **NOT** accurately drawn

Work out the circumference of the circle.
Give your answer correct to 1 decimal place.

..... cm

Q18

(Total 2 marks)

Leave blank

19.

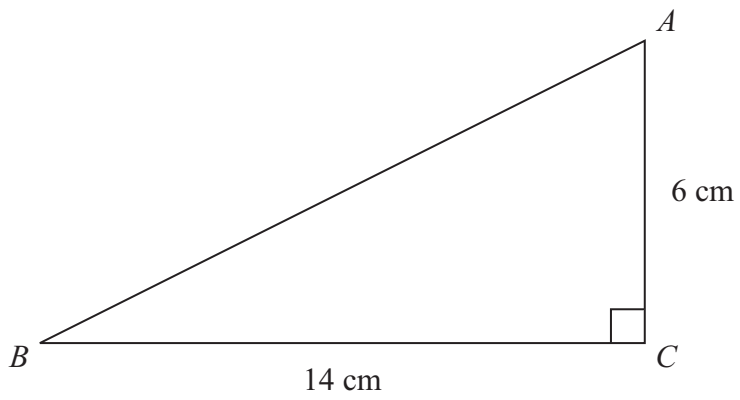


Diagram **NOT** accurately drawn

ABC is a right-angled triangle.
AC = 6 cm.
BC = 14 cm.

Calculate the length of *AB*.
Give your answer correct to 2 decimal places.

..... cm

Q19

(Total 3 marks)

TOTAL FOR PAPER: 60 MARKS

END