Paper Reference(s)

5384F/12F

Edexcel GCSE

Mathematics (Modular) – 2381

Paper 12 (Calculator)

Foundation Tier

Unit 3

Friday 10 June 2011 – 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 18 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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P 3 8 9 4 8 A 0 1 1 6

Turn over

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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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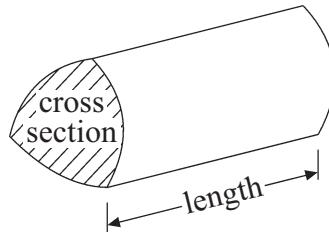
Answer ALL EIGHTEEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1.

Jessie's Café			
Pizza	£2.35	Coffee	80p
Burger	£1.70	Tea	65p
Sandwich	£1.30	Juice	75p

Lisa buys a pizza and a coffee.

(a) Work out the total cost.

£ ....
(1)

Deborah buys 2 burgers and 2 teas.

(b) Work out the total cost.

£ ....
(2)

Michelle has £10
She wants to buy as many sandwiches as possible.

(c) Work out how many sandwiches she can buy.

....
(2)
(Total 5 marks)

2.

$$P \text{ ———————————————— } Q$$
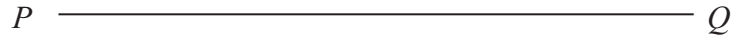
(a) Measure the length of the line *PQ*.
Give the units with your answer.

....
(2)

(b) On the diagram, mark with a cross (×) the midpoint of the line *PQ*.

(1)   **Q2**

(Total 3 marks)

3. (a) Write 15% as a decimal.

....
(1)

(b) Write 7% as a fraction.

....
(1)

(c) Write $\dfrac{3}{5}$ as a percentage.

..............................%
(1)

(d) Work out $\dfrac{5}{6}$ of 210
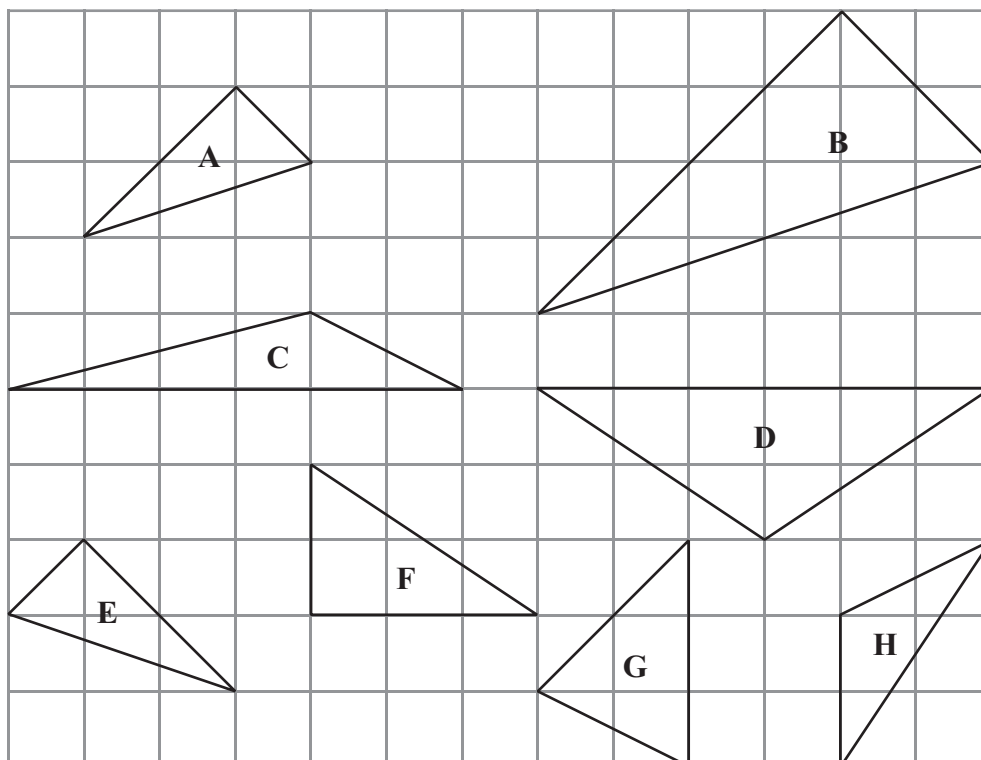
....
(2)   **Q3**

(Total 5 marks)

4. Here are some triangles on a grid.

One of these triangles is an isosceles triangle.

(a) Write down the letter of this triangle.

....
(1)

(b) Write down the special name for triangle **F**.

....
(1)

Two of the triangles are congruent.

(c) Write down the letters of these two triangles.

.... and ....
(1)

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

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

....
(1)   **Q4**

(Total 4 marks)

5. A painting had a value of £800
One year later the value increased by 12%.

Work out the new value of the painting.

£ **Q5**

(Total 3 marks)

6. Mabintou buys 8 CDs.
Each CD costs x pounds.
The total cost is T pounds.

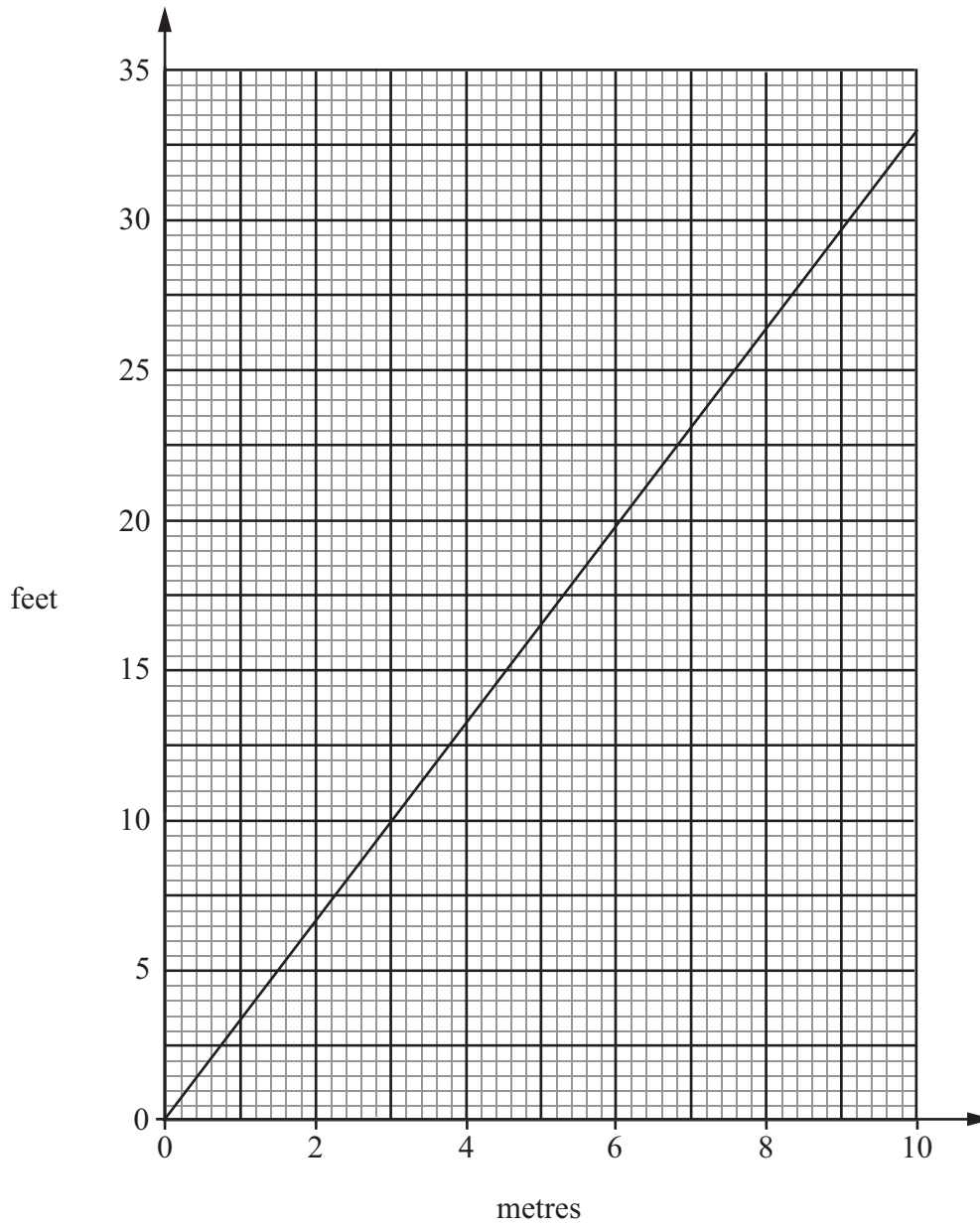Find a formula for T in terms of x.

.... **Q6**

(Total 2 marks)

7. This is a graph that can be used to change between metres and feet.

(a) Change 20 feet into metres.

.... m

(1)

Alfie's garden is 15 metres long.

(b) Estimate the length of Alfie's garden in feet.

.... feet

(2)

(Total 3 marks)

8. (a) How many lines of symmetry does this shape have?

....
(1)

(b) Write down the order of rotational symmetry of this shape.
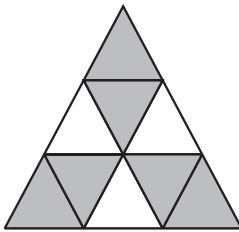
....
(1)

This shape is made from equilateral triangles.
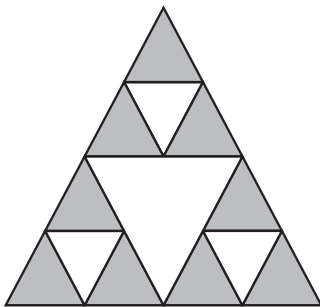
(c) What fraction of the above shape is shaded?

....
(2)

(Total 4 marks)

Q8

9. Mel buys 3 kg of carrots and 200 g of mushrooms.
The total cost is £2.95
1 kg of mushrooms costs £3.20

Work out the cost of 1 kg of carrots.

....

Q9

(Total 4 marks)

10. Kitty says,

"When $x = 4$, the value of $3x^2$ is 144"

Is Kitty correct?

....

You must give a reason for your answer.

....

....

....

Q10

(Total 1 mark)

11. Write down the ratio 75p to 50p.
Give your answer in its simplest form.

....

Q11

(Total 2 marks)

12. (a) Solve $c + 6 = 10$

$c =$ ....
(1)

(b) Solve $\dfrac{e}{3} = 6$

$e =$ ....
(1)

(c) Solve $2x - 3 = 10$

$x =$ ....
(2)

(d) $x > -3$

Show this inequality on the number line.

```
  +---+---+---+---+---+---+---+---+---+---+
 -5  -4  -3  -2  -1   0   1   2   3   4   5
```
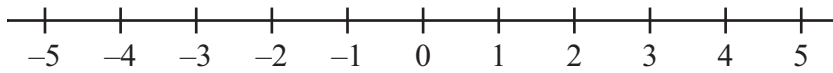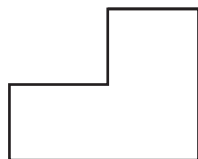
(2)

Q12

(Total 6 marks)

13. Here are the front elevation, side elevation and plan of a 3-D shape.

Front elevation   Side elevation

Plan

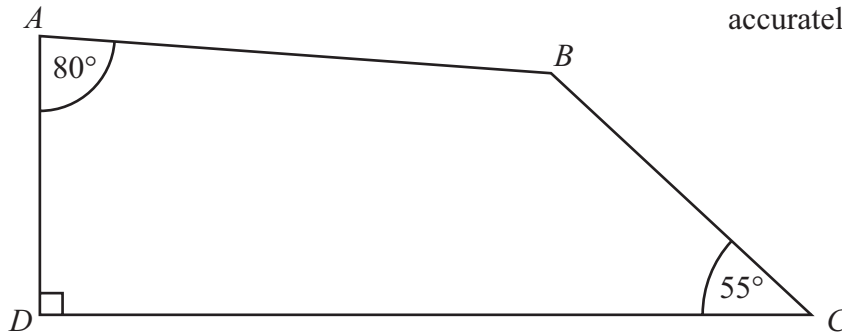In the space below, draw a sketch of the 3-D shape.

(Total 2 marks)

Turn over

14.

Diagram **NOT** accurately drawn

ABCD is a quadrilateral.

(i) Work out the size of angle *ABC*.

.... °

(ii) Give a reason for your answer.

....

....

(Total 3 marks)

15. Bob has 120 beads.
The beads are either red or green.

Bob gives $\frac{3}{4}$ of the beads to his friend.

$\frac{2}{3}$ of the beads Bob now has are red.

Work out how many green beads Bob now has.

....

(Total 3 marks)

16. The equation

$$x^3 + 5x = 67$$

has a solution between 3 and 4

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

$x =$ ....

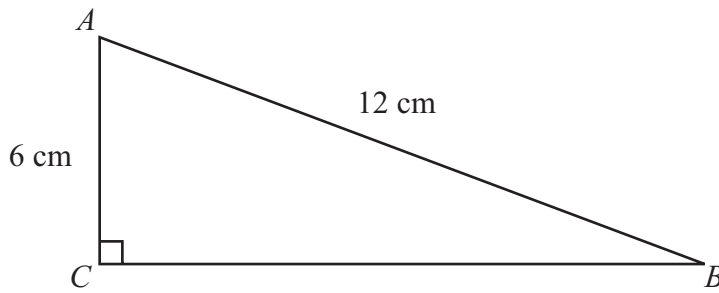**(Total 4 marks)**

P 3 8 9 4 8 A 0 1 3 1 6

17.

Diagram **NOT** accurately drawn

ABC is a right-angled triangle.

AC = 6 cm.
AB = 12 cm.

Work out the length of *BC*.
Give your answer correct to 1 decimal place.

.... cm

(Total 3 marks)

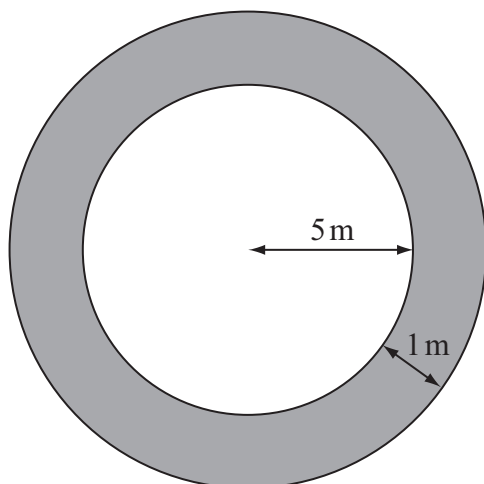**18.** The diagram shows a circular pond with a path around it.

Diagram **NOT** accurately drawn

5 m

1 m

The pond has a radius of 5 m.
The path has a width of 1 m.

Work out the area of the path.
Give your answer correct to 3 significant figures.

.... m²

Q18

(Total 3 marks)

TOTAL FOR PAPER: 60 MARKS

END

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