Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						5	5	2	1	/	0	2	Signature	

Paper Reference(s)

5521/02

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics A – 1387

Paper 2 (Calculator)

Foundation Tier

Friday 9 November 2007 – Morning

Time: 1 hour 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 28 questions in this question paper. The total mark for this paper is 100.
There are 28 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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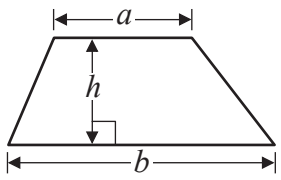
GCSE Mathematics 1387/8

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



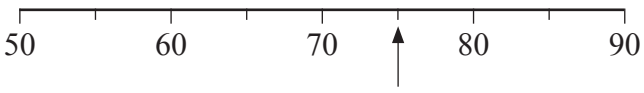
Leave blank

Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1.



(a) Write down the number marked by the arrow.

.....

(1)

(b) Find the number 530 on the number line.

Mark it with an arrow (↑).

(1)

(c) Put these numbers in order of size.
Start with the smallest.

52 31 1007 180

.....

(1)

Q1

(Total 3 marks)

Turn over

Leave blank

2. (a) Draw a line 7 cm long.
Start from the point A marked with a cross.

A ×

(1)

(b) Mark the midpoint of the line PQ with a cross (×).

P ——————————— Q

(1)

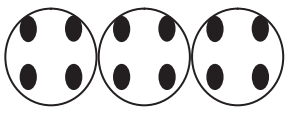
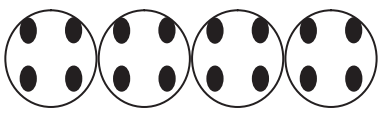
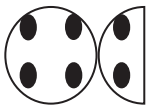
(c) Draw the circle which has PQ as a diameter.

(1) **Q2**

(Total 3 marks)

Leave blank

3. The pictogram gives information about the number of goals scored in a local football league in each of 3 weeks.

First week	
Second week	
Third week	
Fourth week	
Fifth week	

Key:  represents 4 goals

(a) Find the number of goals scored in the first week.

.....

(1)

(b) Find the number of goals scored in the third week.

.....

(1)

8 goals were scored in the fourth week.
5 goals were scored in the fifth week.

(c) Complete the pictogram.

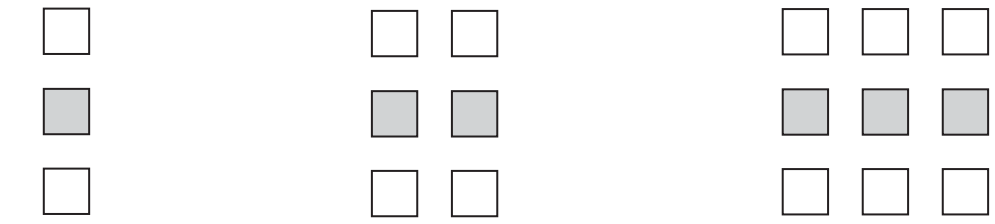
(2)

(Total 4 marks)

Q3

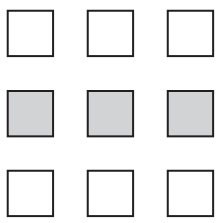
Leave blank

4. Here is a sequence of patterns made from grey squares and white squares.



Pattern Number 1 | Pattern Number 2 | Pattern Number 3

(a) Complete Pattern Number 4



Pattern Number 4

(1)

(b) Complete the table.

Pattern Number	1	2	3	4	5
Total number of squares	3	6	9		

(1)

One of the patterns in the sequence has 10 grey squares.

(c) How many white squares does this pattern have?

.....

(1)

Another pattern in the sequence has a total of 18 squares.

(d) How many grey squares does the pattern have?

.....

(1)

Q4

(Total 4 marks)

Leave blank

5.

factor	multiple	square	square root	half

(a) Use a word from the list above to complete the following sentence.

10 is a ..... of 5

(1)

(b) From the list below, write down the odd number.

10 15 18 20 24

.....

(1)

(c) From the list below, write down the square number.

10 12 14 16 18 20

.....

(1)

Q5

(Total 3 marks)

Leave blank

6.

Joe's Cafe

Prices

Cup of tea	70p
Cup of coffee	85p
Can of cola	75p
Roll	£1.60
Sandwich	£1.35

Jonathan buys a can of cola and a roll.

(a) Work out the total cost.

£.....

(1)

Sachin buys a cup of tea, a cup of coffee and 2 sandwiches.

(b) Work out the total cost.

£.....

(2)

Kim buys a can of cola, a cup of coffee and a sandwich.
She pays with a £5 note.

(c) Work out how much change she should get.

£.....

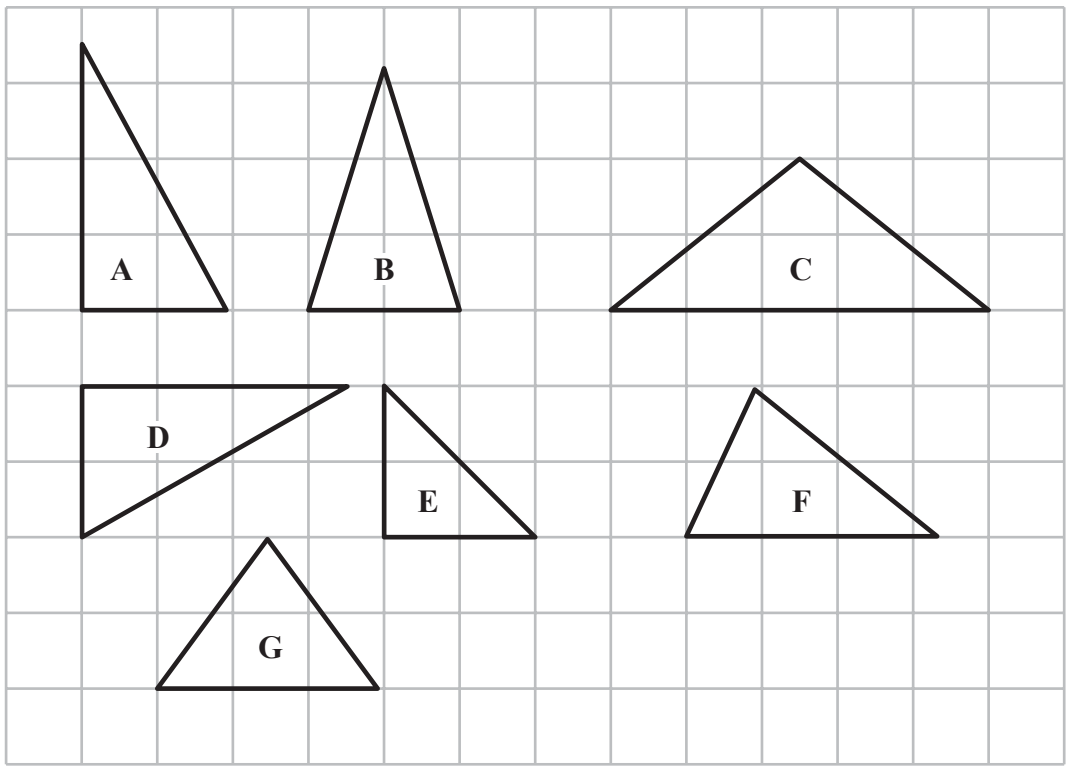
(3)

Q6

(Total 6 marks)

Leave blank

7. Here are some triangles on a grid.



Two of these triangles are congruent.

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

.....

(1)

One of these triangles is both right-angled and isosceles.

(b) Write down the letter of this triangle.

.....

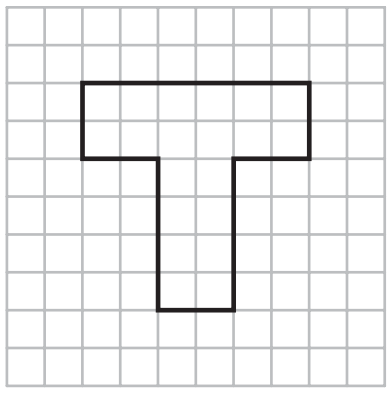
(1) **Q7**

(Total 2 marks)

Leave blank

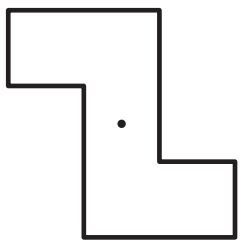
8. The shape below has one line of symmetry.

(a) On the grid, draw this line of symmetry.



(1)

The shape below has rotational symmetry.



(b) Write down the order of rotational symmetry.

.....

(1) **Q8**

(Total 2 marks)

Leave blank

9. The table shows the midday temperatures in 4 different cities on Monday.

City	Midday temperature (°C)
Belfast	5
Cardiff	–1
Glasgow	–6
London	–4

(a) Which city had the lowest temperature?

.....

(1)

(b) Work out the difference between the temperature in Cardiff and the temperature in Belfast.

..... °C

(1)

By Tuesday, the midday temperature in London had risen by 7 °C.

(c) Work out the midday temperature in London on Tuesday.

..... °C

(1)

Q9

(Total 3 marks)

Leave blank

10.

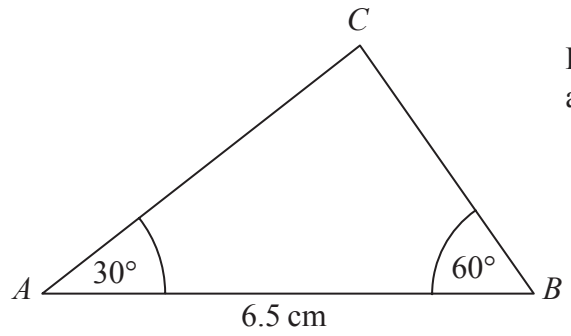


Diagram **NOT** accurately drawn

(a) Make an accurate drawing of this triangle.
The line *AB* has already been drawn for you.

A ——————————— *B*

(2)

(b) Measure the length of the line *AC* on your drawing.
You must state the units.

.....

(2)

The size of the angle in the triangle at *C* is 90°.

(c) Write down the mathematical name for this type of angle.

.....

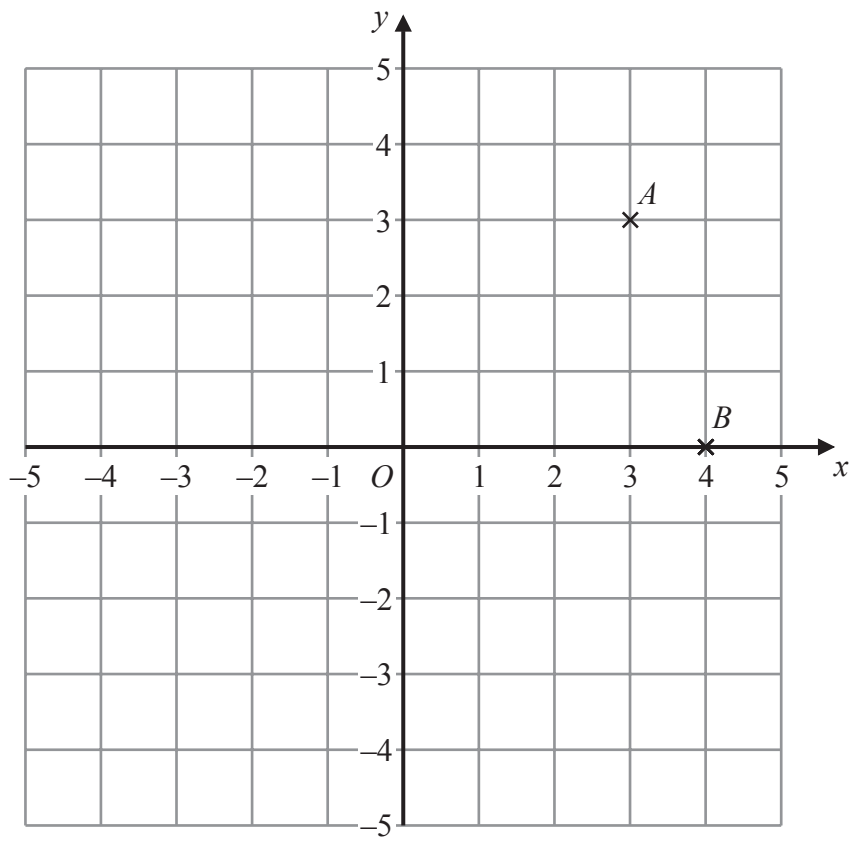
(1)

Q10

(Total 5 marks)

Leave blank

11.



(a) Write down the coordinates of the point *A*.

(..... , ...)

(1)

(b) Write down the coordinates of the point *B*.

(..... , ...)

(1)

N is the point (–3, 2)

(c) On the grid, mark the point *N* with a cross (×). Label it *N*.

(1)

M is another point.
The *x* coordinate of *M* is the same as the *x* coordinate of *N*.
The *y* coordinate of *M* is the same as the *y* coordinate of *B*.

(d) Write down the coordinates of the point *M*.

(..... , ...)

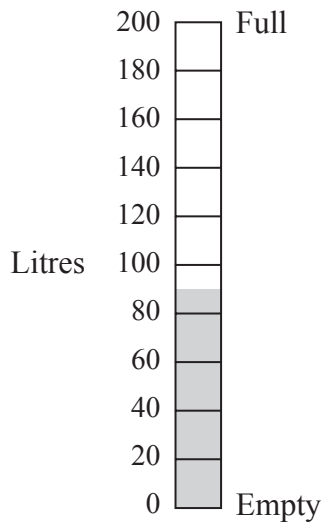
(1)

Q11

(Total 4 marks)

Leave blank

12.



The scale shows how much water there is in a tank.

(a) Write down an estimate for the number of litres of water in the tank.

..... litres
(1)

The tank holds 200 litres when full.
Bill adds water to the tank until it is full.

(b) Work out the number of litres of water he adds.

..... litres
(1)

(c) (i) How many litres are there in 1 gallon?

..... litres

(ii) Change 200 litres to gallons.
Give your answer to the nearest gallon.

..... gallons
(2)

Q12

(Total 4 marks)

Leave blank

13. (a) Solve $2y = 8$

$y =$ .....

(1)

(b) Solve $t - 4 = 7$

$t =$ .....

(1) **Q13**

(Total 2 marks)

14. Mr Smith kept a record of the number of absences for each student in his class for one term.

Here are his results.

0 0 0 8 4 5 5 3 2 1

(a) Write down the mode.

.....

(1)

(b) Work out the mean.

.....

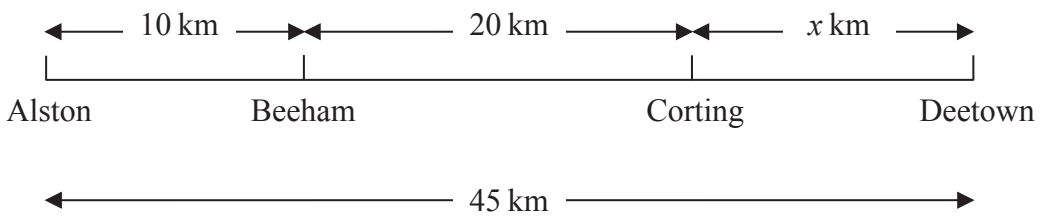
(2) **Q14**

(Total 3 marks)

Leave blank

15.

Diagram **NOT** accurately drawn



The diagram represents a straight road that joins 4 towns.

Beeham is 10 km from Alston.
Corting is 20 km from Beeham.
Deetown is x km from Corting.
Deetown is 45 km from Alston.

(a) Work out the distance from Alston to Corting.

..... km
(1)

(b) Work out the value of x.

x = ...
(1)

Emma walks from Alston to Corting.
Josh walks from Beeham to Deetown.

(c) Who walks further?

.....

You must explain your answer.

.....

.....
(2)

Leave blank

Kyle walks from Alston to Beeham.
He starts from Alston at 9:30
He takes one hour 30 minutes to get to Beeham.

(d) At what time does Kyle get to Beeham?

.....

(1)

The diagram below shows the straight road from Alston to Deetown.
This diagram has been drawn accurately using a scale of 1 cm to represent 5 km.

(e) Mark accurately with crosses (×), the positions of Beeham and Corting.

(1)

Q15

(Total 6 marks)

16. 800 students are going on a school trip by bus.

Each bus can carry 34 students.

Work out the smallest number of buses needed to carry all the students.

.....

Q16

(Total 2 marks)

17. One cup costs £3

One plate costs £5

Write down an expression for the total cost, in pounds, of x cups and y plates.

.....

Q17

(Total 2 marks)

Leave blank

18. Calculate 36% of £4500

£ .....

(Total 2 marks)

Q18

19.

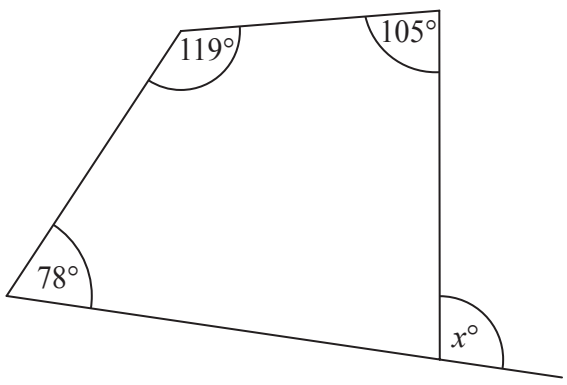


Diagram **NOT** accurately drawn

Work out the value of x.

x = ...

(Total 3 marks)

Q19

20. The cost of 1.5 kg of peaches is £0.84

The total cost of 3 kg of peaches and 2 kg of apples is £2.34

Work out the cost of 1 kg of apples.

.....

(Total 3 marks)

Q20

Leave blank

21. Plain tiles cost 28p each.
Patterned tiles cost £9.51 each.

Julie buys 450 plain tiles and 15 patterned tiles.

(a) Work out the total cost of the tiles.

£.....

(3)

(b) Express 15 as a fraction of 450
Give your answer in its simplest form.

.....

(2)

Fred lays the tiles.
He charges £360 plus VAT at 17.5%.

(c) Work out the total amount that Fred charges.

£.....

(3)

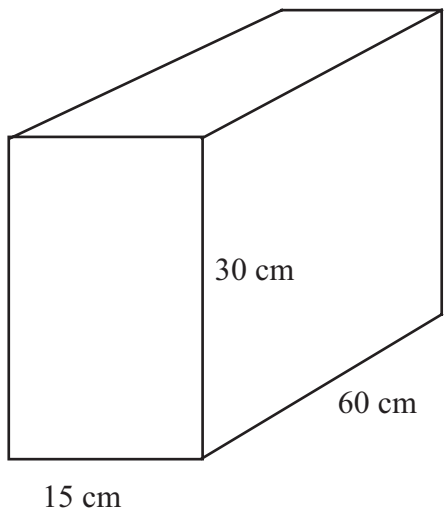
Q21

(Total 8 marks)

Leave blank

22.

Diagram **NOT** accurately drawn



The diagram shows a cuboid.

The length of the cuboid is 60 cm.
The width of the cuboid is 15 cm.
The height of the cuboid is 30 cm.

Work out the volume of the cuboid.

..... cm^3

Q22

(Total 2 marks)

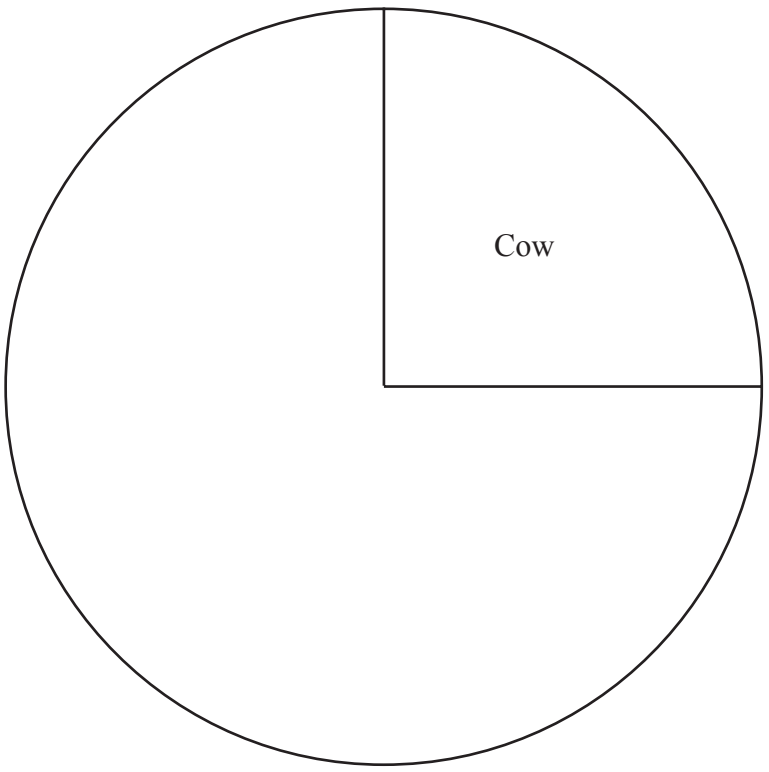
Leave blank

23. Mr Irvine has a farm.

The table gives information about the number of animals on his farm.

Animal	Frequency	
Cow	15	
Hen	12	
Pig	5	
Sheep	28	

Complete the accurate pie chart to show this information.



Q23

(Total 4 marks)

Turn over

Leave blank

24. Use your calculator to work out the value of $\sqrt{20.25}+1.65^2$

(a) Write down all the figures on your calculator display.

.....

(2)

(b) Write your answer to part (a) correct to one significant figure.

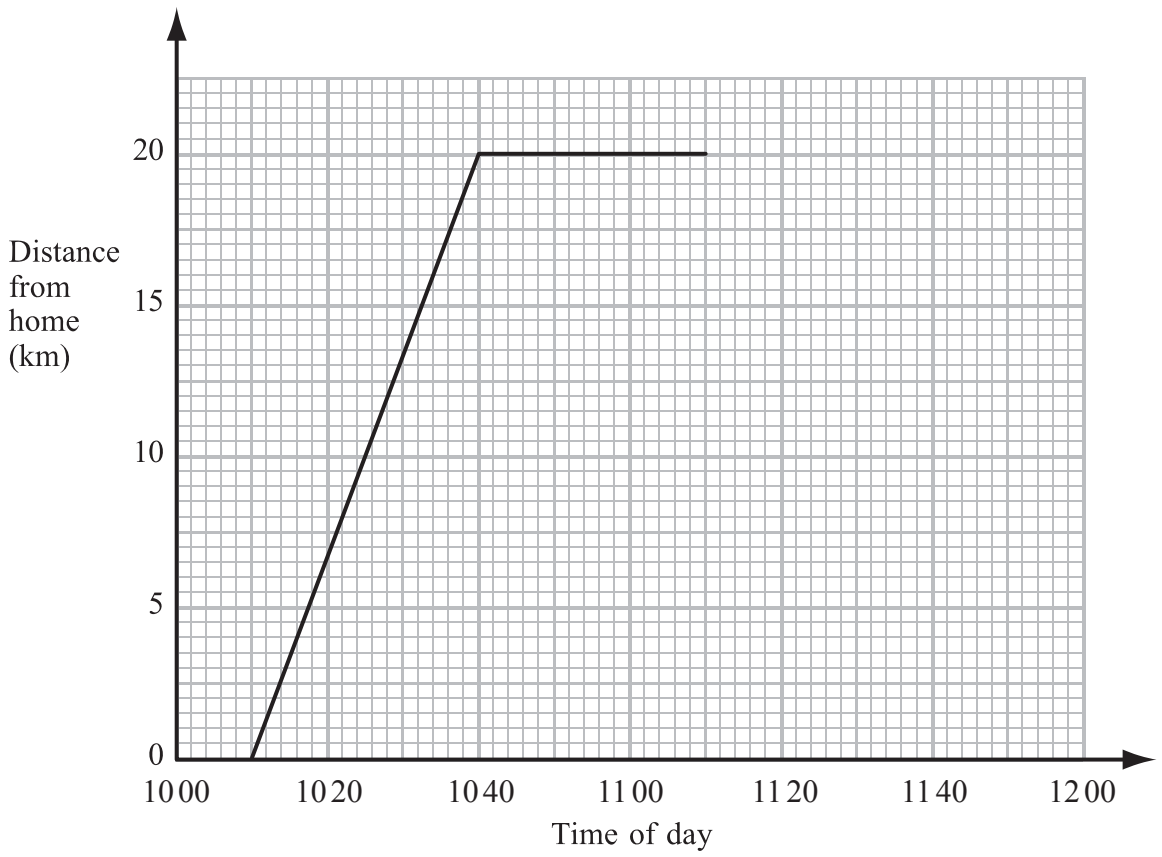
.....

(1)

(Total 3 marks)

Q24

25. Jamie travelled 20 km from his home to his friend's house.
Jamie then spent some time at his friend's house before returning home.
Here is the travel graph for part of Jamie's journey.



Leave blank

(a) Write down the time that Jamie left home.

.....
(1)

(b) Write down Jamie's distance from home at 1020

..... km
(1)

Jamie left his friend's house at 1110 to return home.

(c) Work out the time in minutes Jamie spent at his friend's house.

..... minutes
(1)

Jamie returned home at a steady speed.
He arrived home at 1150

(d) Complete the travel graph.

(1)

(e) Work out Jamie's average speed on his journey from his home to his friend's house.
Give your answer in kilometres per hour.

..... kilometres per hour
(2) **Q25**

(Total 6 marks)

26. Solve $4y + 3 = 2y + 8$

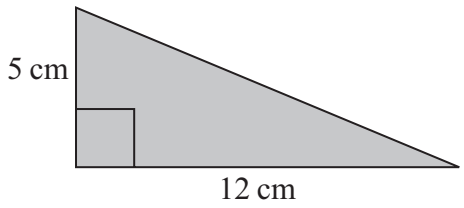
$y =$ **Q26**

(Total 2 marks)

Leave blank

27.

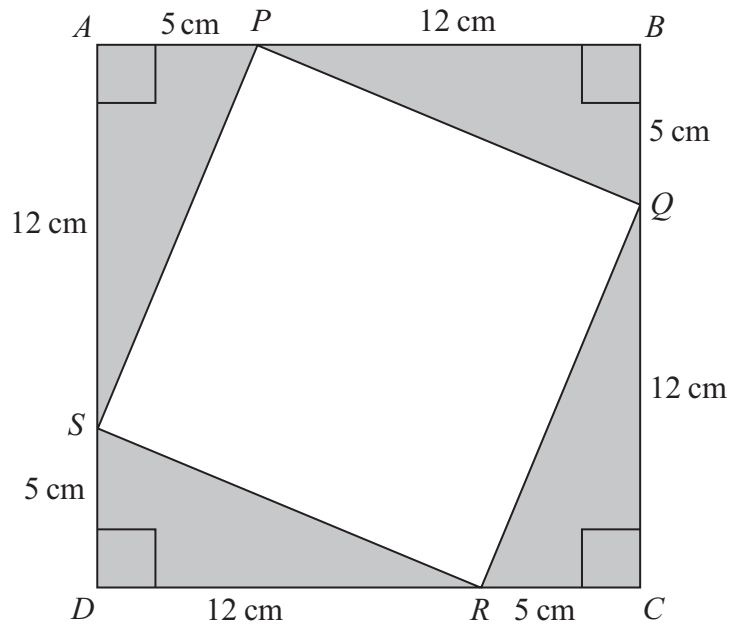
Diagram **NOT** accurately drawn



(a) Work out the area of the triangle.

..... cm^2
(2)

Diagram **NOT** accurately drawn



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4 copies of the triangle and the quadrilateral *PQRS* are used to make the square *ABCD*.

(b) Work out the area of the quadrilateral *PQRS*.

..... cm^2

(3)

(Total 5 marks)

Q27

Leave blank

28. Ali found out the number of rooms in each of 40 houses in a town.
He used the information to complete the frequency table.

Number of Rooms	Frequency	
4	4	
5	7	
6	10	
7	12	
8	5	
9	2	

Ali said that the mode is 9
Ali is wrong.

(a) Explain why.

.....

.....

(1)

(b) Calculate the mean number of rooms.

.....

(3) **Q28**

(Total 4 marks)

TOTAL FOR PAPER: 100 MARKS

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