Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						1	3	8	0	/	2	F	Signature	

Paper Reference(s)

1380/2F

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics (Linear) – 1380

Paper 2 (Calculator)

Foundation Tier

Monday 1 June 2009 – 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 24 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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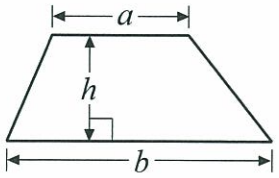
GCSE Mathematics (Linear) 1380

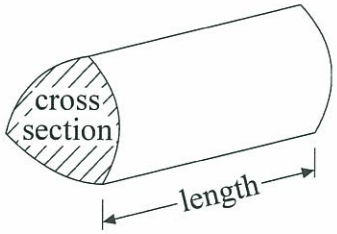
Formulae: Foundation Tier

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 EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. (a) Write three pounds fifty pence in figures.

£ 3.50

(1)

(b) Write three pounds five pence in figures.

£ 3.05

(1)

(c) Write three thousand five hundred and ten pounds in figures.

£ 3,510.00

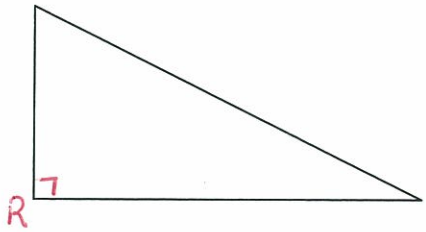
(1)

Q1

(Total 3 marks)

Leave blank

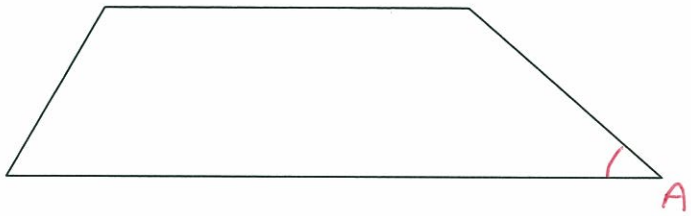
2. (a) Here is a right-angled triangle.



Mark the right angle with a letter R.

(1)

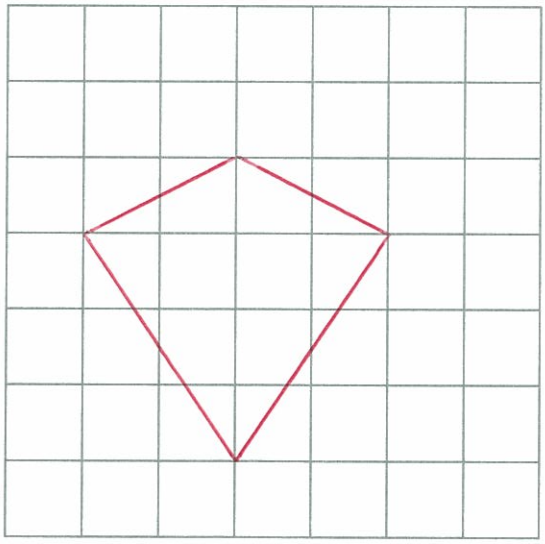
(b) Here is a trapezium.



Mark an acute angle with a letter A.

(1)

(c) On the grid, draw a kite.



(1)

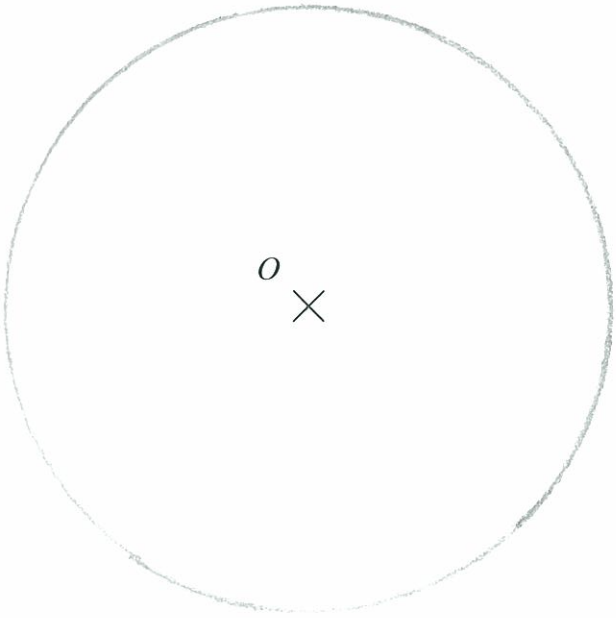
Q2

(Total 3 marks)

Leave blank

3. (a) The point O has been marked with a cross ($\times$).

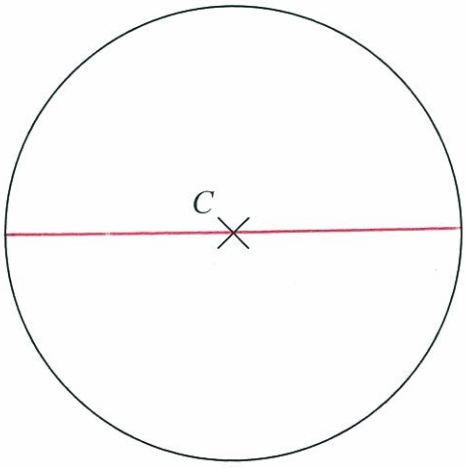
Draw a circle with radius 4 cm and centre O.



(1)

(b) Here is a circle centre C.

Draw a diameter in the circle.



(1) **Q3**

(Total 2 marks)

Leave blank

4.

Cinema tickets	
Adult ticket:	£8.65
Child ticket:	£4.90
Senior ticket:	£5.85

Tony buys one child ticket and one senior ticket.

(a) Work out the total cost.

$4.90 + 5.85 = 10.75$

£ 10.75

(1)

Stephanie buys adult tickets only.
The total cost is £60.55

(b) How many adult tickets does she buy?

$\frac{60.55}{8.65} = 7$

7

(2)

Kamala buys one adult ticket and two child tickets.
She pays with a £20 note.

(c) How much change should she get?

$20 - (8.65 + 2(4.90))$

$= 20 - 18.45 = 1.55$

£ 1.55

(3)

Q4

(Total 6 marks)

Leave blank

5. The first even number is 2

(a) Write down the 3rd even number.

6

(1)

Here are some patterns made from sticks.

Pattern number 1 Pattern number 2 Pattern number 3

(b) Complete Pattern number 4

Pattern number 4

(1)

(c) Complete the table.

Pattern number	1	2	3	4	5
Number of sticks	3	6	9	12	15

(2)

Jenny wants to find the number of sticks in Pattern number 100

(d) Write down a method she could use.

If n = pattern number then Number of sticks = 3n.

i.e. Number of sticks = 3 x Pattern number. ∴ No. of sticks in pattern no. 100 = 3 x 100 = 300.

(1) **Q5**

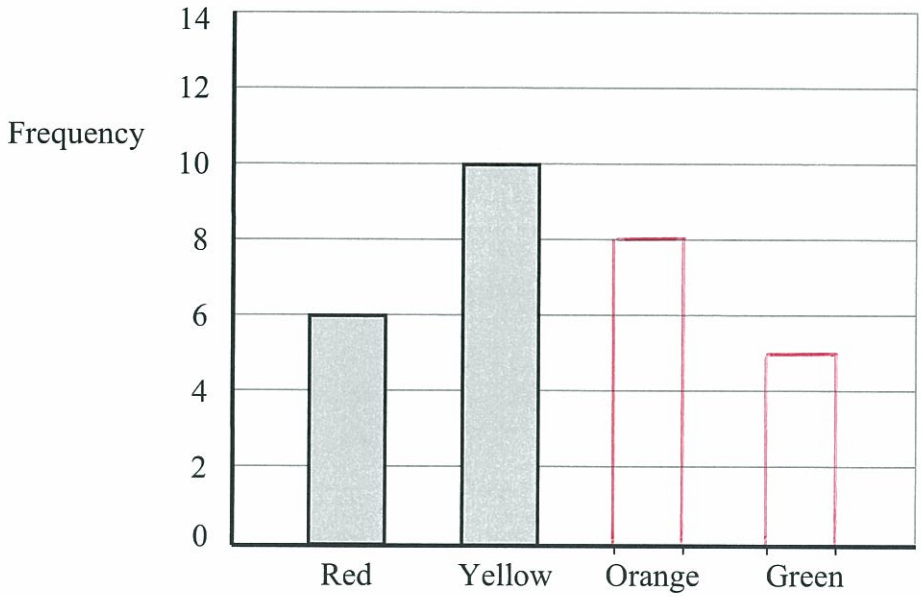
(Total 5 marks)

Leave blank

6. There are only red, yellow, orange and green sweets in a bag.

Peter recorded the colour of each sweet in the bag.

The bar chart shows some information about his results.



8 sweets were orange.
5 sweets were green.

(a) Complete the bar chart.

(2)

(b) Write down the number of red sweets.

6

(1)

(c) What colour sweet is the mode?

Yellow

(1)

(d) Work out the total number of sweets in the bag.

6 + 10 + 8 + 5 = 29

29

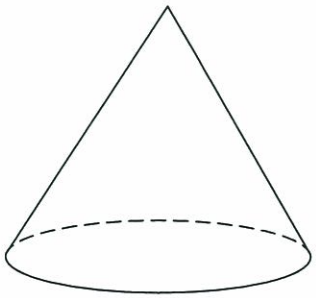
(1) **Q6**

(Total 5 marks)

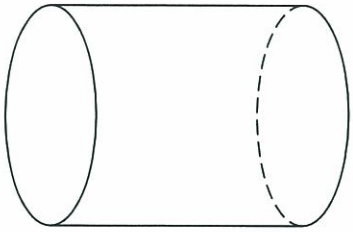
Leave blank

7. Write down the name of each of these two 3-D shapes.

(i)



(ii)



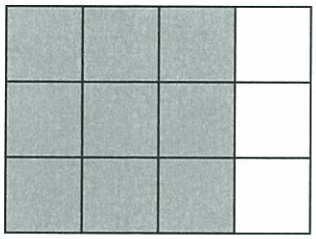
(i) Cone

(ii) Cylinder

Q7

(Total 2 marks)

8. (a) Write down the fraction of this shape that is shaded.
Give your fraction in its simplest form.



$\frac{9}{12} = \frac{3}{4}$

$\frac{3}{4}$

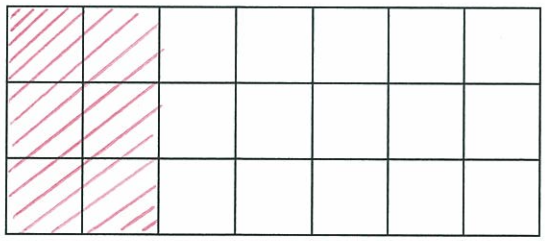
(2)

(b) Shade $\frac{2}{7}$ of this shape.

$\frac{2}{7}$ of 21

$= \frac{2}{7} \times 21$

$= 6$



(1)

(c) Write $\frac{3}{10}$ as a decimal. $3 \div 10 = 0.3$

0.3

(1)

(d) Write 0.39 as a fraction. $0.39 \times \frac{100}{100}$

$= \frac{39}{100}$

$\frac{39}{100}$

(1)

Q8

(Total 5 marks)

Leave blank

9. (a) Measure, in centimetres, the length of the line AB.

6.4 ..... cm

(1)

(b) Mark the midpoint of the line AB with a cross ($\times$).

(1) **Q9**

(Total 2 marks)

10. Sarah works in a post office.
She recorded the number of parcels posted on each of 16 days.

Here are her results.

2	2	5	3	2	4	2	2
3	6	4	6	2	2	3	3

(a) Complete the frequency table to show Sarah's results.

Number of parcels	Tally	Frequency
2	𝍸 ||	7
3	||||	4
4	||	2
5	|	1
6	||	2

(2)

(b) Write down the mode.

Mode is the most frequently occurring. 2 .....

(1)

(c) Work out the range.

Max no. of parcels − minimum no. of parcels = 6 − 2 = 4 4 .....

(2) **Q10**

(Total 5 marks)

Leave blank

11. You can use this rule to work out the cost, in pounds, of hiring a carpet cleaner.

Multiply the number of days hire by 6 Add 4 to your answer

Jill hires the carpet cleaner for 3 days.

(a) Work out the cost.

$3 \times 6 + 4 = 18 + 4 = 22$

£ 22

(2)

Carlos hires the carpet cleaner.
The cost is £52

(b) Work out for how many days Carlos hires the carpet cleaner.

Let d represent the no. of days hire.

Then Total Cost $= 6d + 4$

$\Rightarrow 52 = 6d + 4$

$\therefore d = \frac{52 - 4}{6} = \frac{48}{6} = 8$

8 days

(3)

Q11

(Total 5 marks)

Leave blank

12. (a)

Write down the number marked by the arrow.

33

(1)

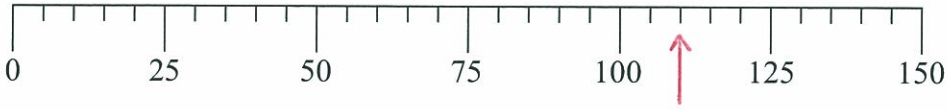
(b)

Write down the number marked by the arrow.

180

(1)

(c)



Find the number 110 on the number line.
Mark it with an arrow (↑).

(1)

(d)

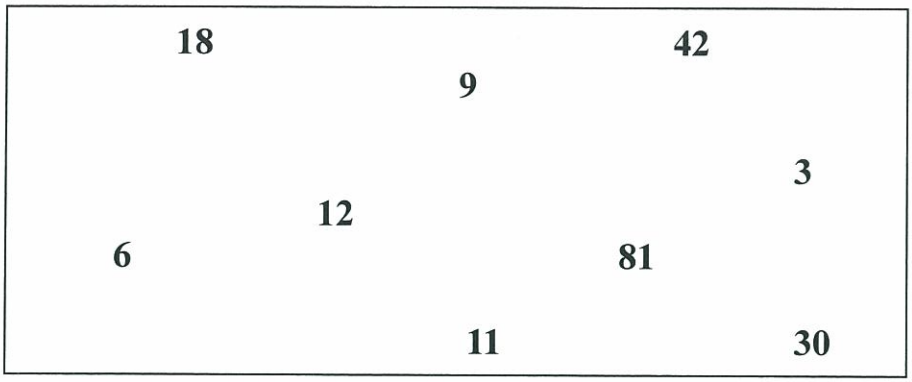
Find the number 0.27 on the number line.
Mark it with an arrow (↑).

(1) **Q12**

(Total 4 marks)

Leave blank

13.



From the numbers in the rectangle,

(i) write down a multiple of 4,

12

(ii) write down a factor of 21,

3

(iii) write down a prime number.

Prime number set: {2, 3, 5, 7, 11, 13, 17, 19 ..... }

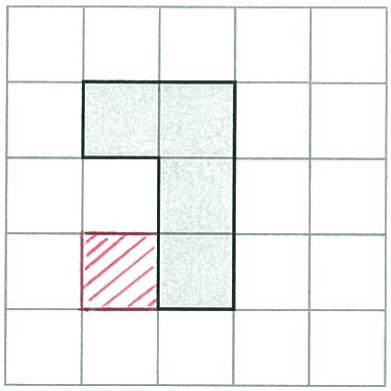
11

Q13

(Total 3 marks)

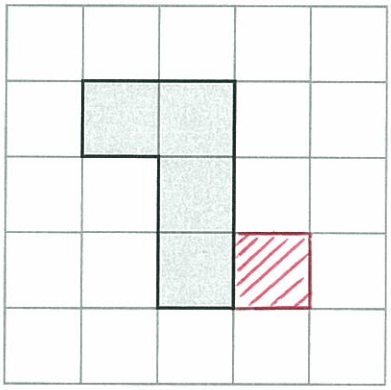
Leave blank

14. (a) Shade **one** more square to make a pattern with 1 line of symmetry.



(1)

(b) Shade **one** more square to make a pattern with rotational symmetry of order 2



(1) **Q14**

(Total 2 marks)

Leave blank

15. 36 students each went to one revision class.

$\frac{1}{6}$ of the students went to the physics revision class.

$\frac{2}{9}$ of the students went to the biology revision class.

All of the other students went to the chemistry revision class.

How many students went to the chemistry revision class?

$1 - \left(\frac{1}{6} + \frac{2}{9}\right)$ will give us the fraction of students who went to the chemistry revision class.

$\frac{1}{6} + \frac{2}{9} = \frac{3+4}{18} = \frac{7}{18}$ and $1 - \frac{7}{18} \equiv \frac{18}{18} - \frac{7}{18}$

$= \frac{11}{18}$. Finally, $\frac{11}{18}$ of 36 is given by

$\frac{11}{18} \times 36 = 2 \times 11 = 22$

22 .....

Q15

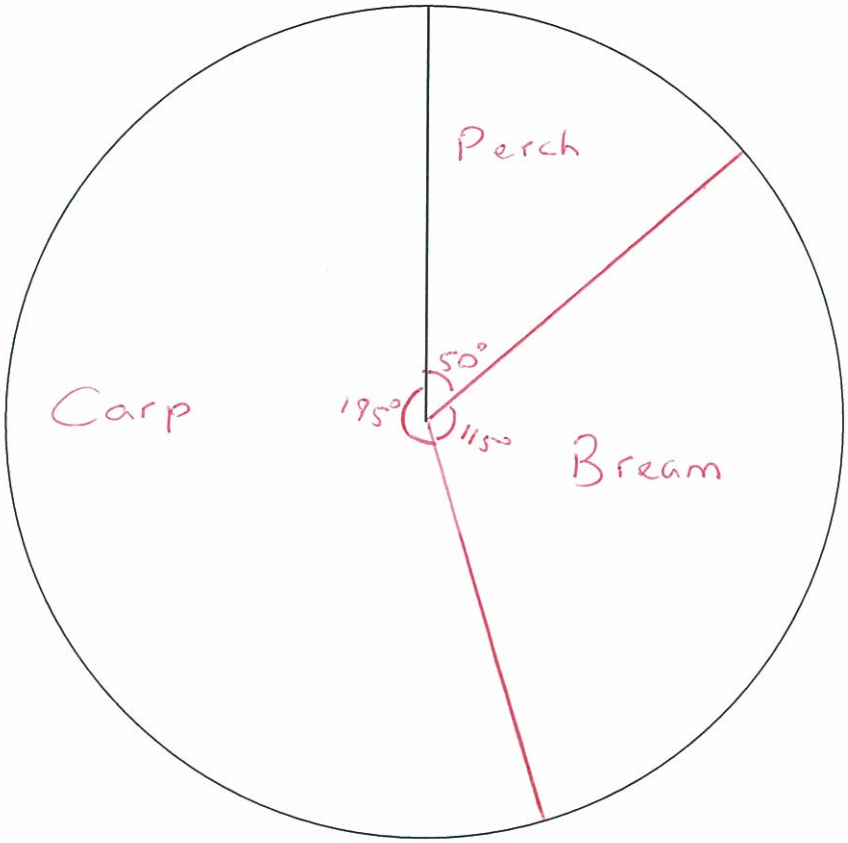
(Total 3 marks)

Leave blank

16. The table gives information about the numbers of fish in a lake.

Fish	Frequency	Angle
Perch	10	$\frac{10}{72} \times 360 = 50°$
Bream	23	$\frac{23}{72} \times 360 = 115°$
Carp	39	$\frac{39}{72} \times 360 = 195°$

Draw an accurate pie chart to show this information.



Q16

(Total 4 marks)

Leave blank

17. Here is a cuboid.

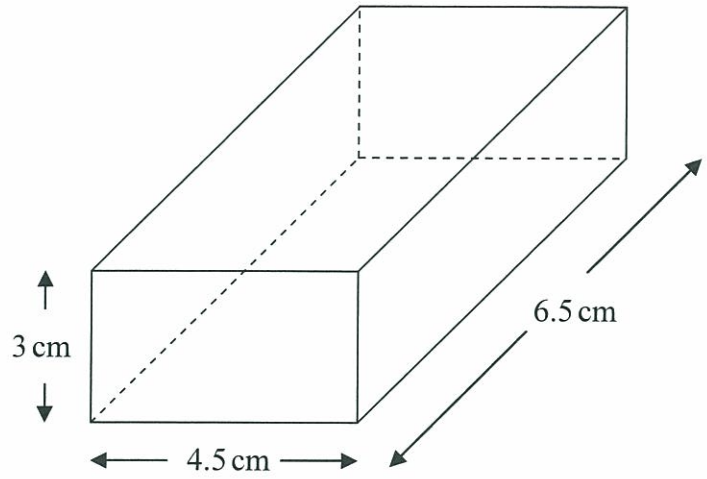


Diagram **NOT** accurately drawn

Calculate the volume of the cuboid.

$V = l \times w \times h$

$= 4.5 \times 3 \times 6.5$

$= 87.75 \text{ cm}^3$

87.75 ..... cm^3 **Q17**

(Total 2 marks)

18. $F = 1.8C + 32$

(a) Work out the value of F when $C = -8$

$F = 1.8(-8) + 32 = 17.6$

17.6 .....

(2)

(b) Work out the value of C when $F = 68$

$F = 1.8C + 32$

$\Rightarrow C = \frac{F - 32}{1.8} = \frac{68 - 32}{1.8} = 20$

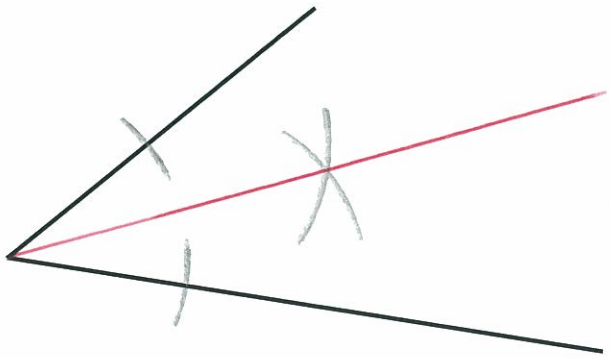
20 .....

(2) **Q18**

(Total 4 marks)

Leave blank

19. Use ruler and compasses to **construct** the bisector of this angle.
You must show all your construction lines.



Q19

(Total 2 marks)

20. Tania went to Italy.
She changed £325 into euros (€).

The exchange rate was £1 = €1.68

(a) Change £325 into euros (€).

325 x 1.68

€ 546

(2)

When she came home she changed €117 into pounds.

The new exchange rate was £1 = €1.50

(b) Change €117 into pounds.

$\frac{117}{1.5}$

£ 78

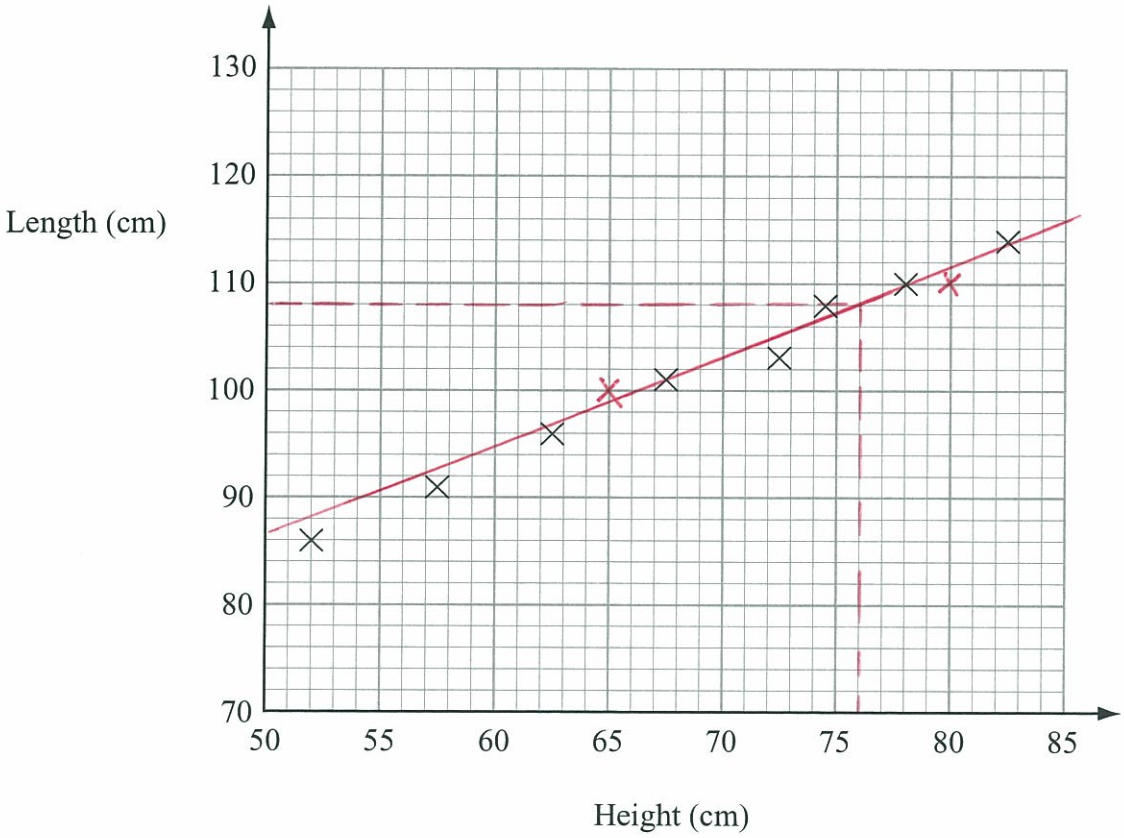
(2)

Q20

(Total 4 marks)

Leave blank

21. The scatter graph shows information about eight sheep.
It shows the height and the length of each sheep.



The table gives the height and the length of two more sheep.

Height (cm)	65	80
Length (cm)	100	110

(a) On the scatter graph, plot the information from the table.

(1)

(b) Describe the relationship between the height and the length of these sheep.

Positive correlation

(1)

The height of a sheep is 76 cm.

(c) Estimate the length of this sheep.

108 cm

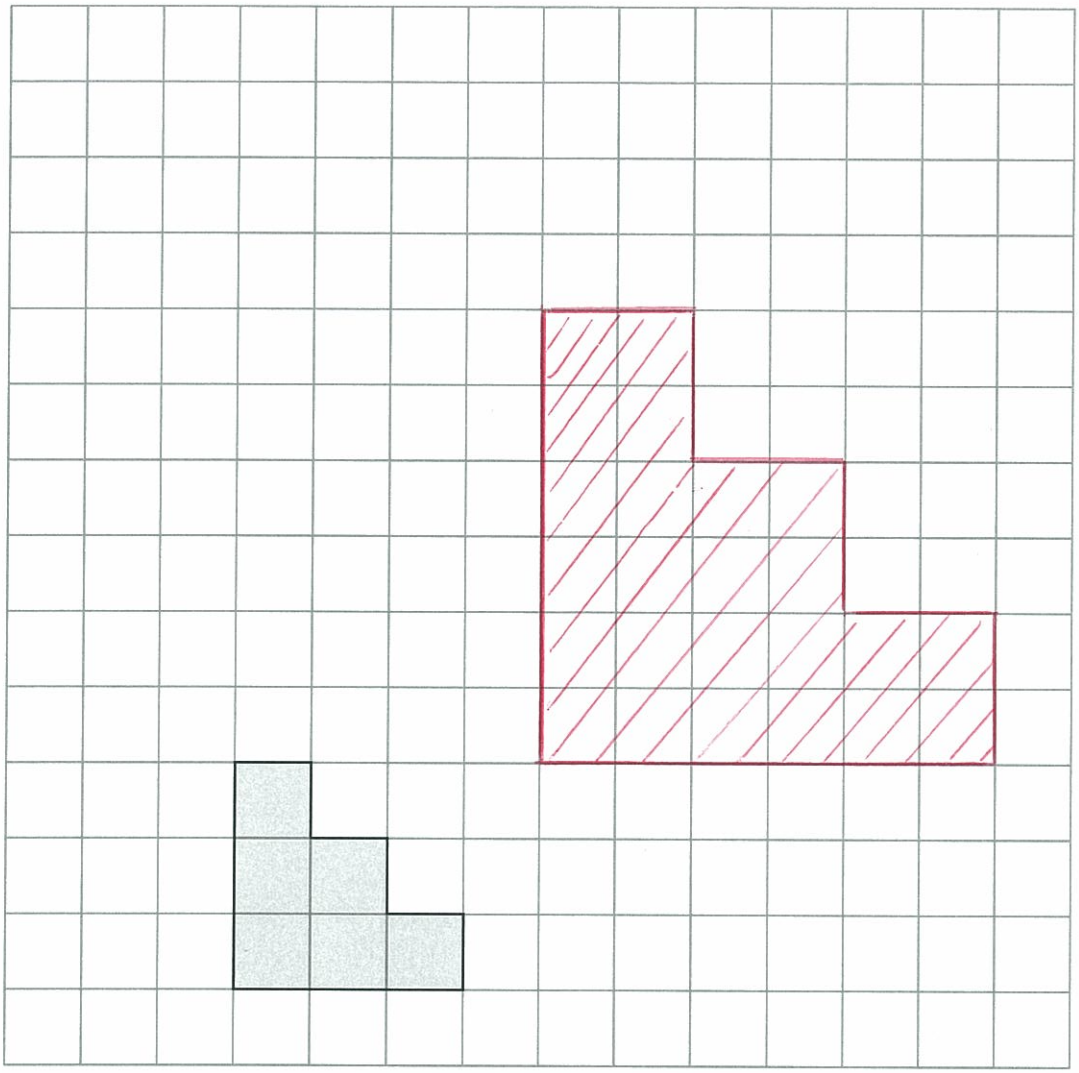
(2)

Q21

(Total 4 marks)

Leave blank

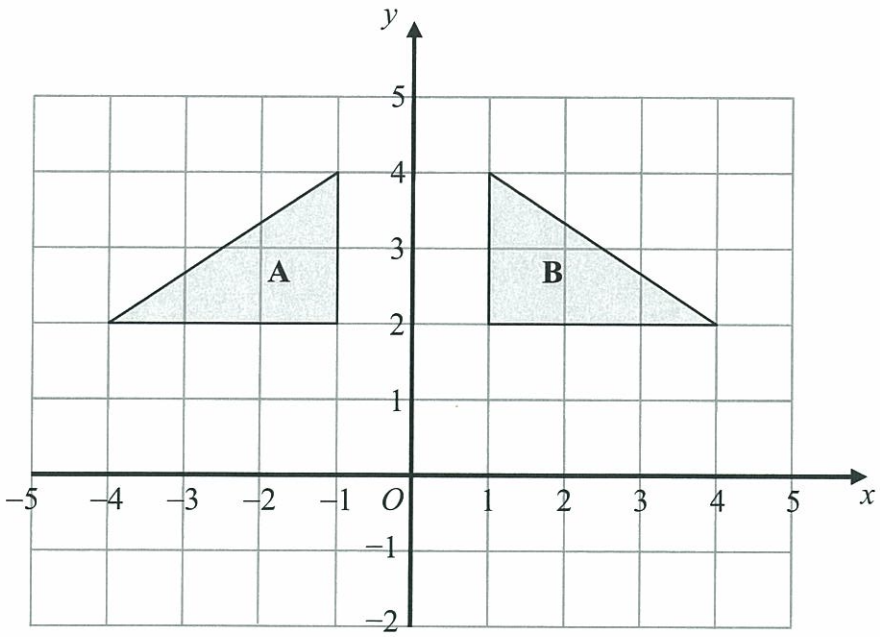
22.



(a) On the grid, draw an enlargement, scale factor 2, of the shaded shape.

(2)

Leave blank



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

A reflection about the line $x = 0$ (i.e. the y-axis)

(2) Q22

(Total 4 marks)

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

$4m$

(1)

(b) Simplify $p \times q \times 4$

$4pq$

(1)

(c) Expand $5(3x - 2)$

$5(3x) + 5(-2)$
$= 15x - 10$

$15x - 10$

(1)

(d) Expand $3y(y + 4)$

$3y(y) + (3y \times 4) = 3y^2 + 12y$

$3y^2 + 12y$

(2) Q23

(Total 5 marks)

Leave blank

24. There are some sweets in a bag.

18 of the sweets are toffees.
12 of the sweets are mints.

(a) Write down the ratio of the number of toffees to the number of mints.
Give your ratio in its simplest form.

18 : 12

= 3 : 2

3 : 2

(2)

There are some oranges and apples in a box.
The total number of oranges and apples is 54
The ratio of the number of oranges to the number of apples is 1 : 5

(b) Work out the number of apples in the box.

$\frac{54}{1+5} = \frac{54}{6} = 9 \Rightarrow$ No. of apples $= 9 \times 5 = 45$

Alternatively, note that the fraction of the total which are apples is given by $\frac{5}{1+5} = \frac{5}{6}$

And $\frac{5}{6}$ of $54 = \frac{54}{6} \times 5 = 9 \times 5 = 45$

45

(2)

Q24

(Total 4 marks)

Leave blank

27. (a) Work out $\dfrac{4.6+3.85}{3.2^2-6.51}$

Write down all the numbers on your calculator display.

$\dfrac{8.45}{(3.2^2-6.51)}$

2.265415555

(2)

(b) Give your answer to part (a) correct to 1 significant figure.

2

(1)

(Total 3 marks)

Q27

28. Here is a tile in the shape of a semicircle.

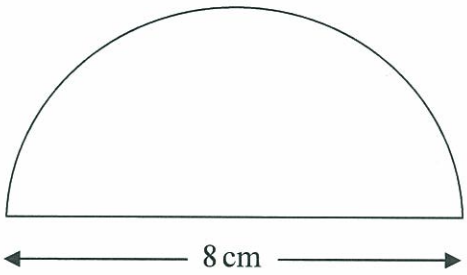


Diagram **NOT** accurately drawn

The diameter of the semicircle is 8 cm.

Work out the perimeter of the tile.
Give your answer correct to 2 decimal places.

$8 + \frac{1}{2}\pi(8)$

$= 8 + 4\pi = 20.57\text{cm}$ (2 d.p.).

20.57 cm

(Total 3 marks)

Q28

TOTAL FOR PAPER: 100 MARKS

END