## Question 20 (June 2009 – 1380/1F)

a) $\frac{90}{600} = \frac{9}{60} = \frac{3}{20}$

b) to work out 180 out of 600 as a percentage we put 180 out of 600 as a fraction and then multiply by 100

$\frac{180}{600}$ x 100

this is the same as
$\frac{180}{600}$ x $\frac{100}{1}$ = $\frac{180}{6}$ x $\frac{1}{1}$ = $\frac{180}{6}$ = 30%

c) we have 90 yellow and 180 red. That makes 270 so far. The rest are blue or green.
600 – 270 = 330
So 330 are blue or green.

The ratio of blue to green is 2:1
The total of these ratios is 3
330 ÷ 3 = 110
Each share is worth 110 counters.
Blue is 110 x 2 = 220 counters
Green is 110 x 1 = 110 counters

Alternatively:

| blue | green | **Total** |
|---|---|---|
| 2 | 1 | **3** |
| | 110 note 1 | **330** |

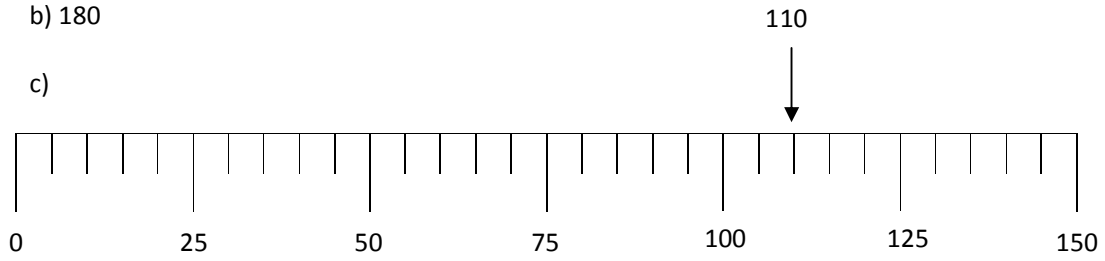
Note 1: 330 ÷ 3 = 110. So for green 1 x 110 = 110 counters

## Question 12 (June 2009 – 1380/2F)

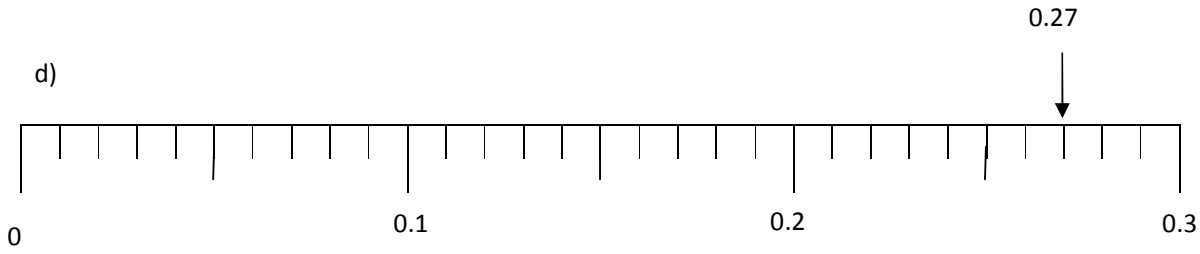
a) 33

b) 180

c)




d)

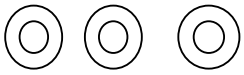
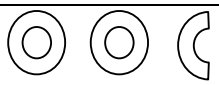
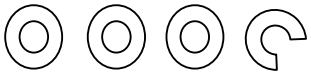
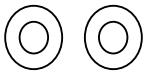
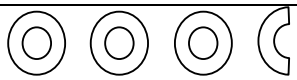


## Question 4 (November 2009 – 1380/1F)

a) Tuesday has 3 complete symbols and each symbol represents 8 bicycles so
3 x 8 = 24 bicycles were sold

b) Wednesday has 2 and a half symbols so that means
2.5 x 8 = (2 x 8) + (0.5 x 8) = 16 + 4 = 20 bicycles

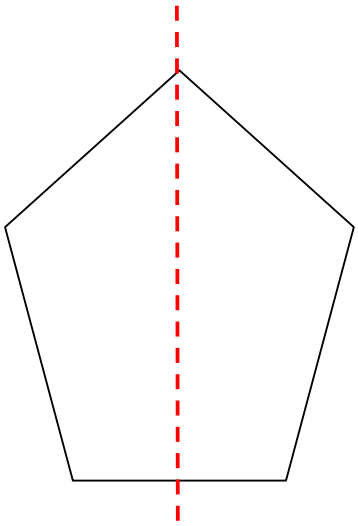
c) 16 bicycles is the same as 2 symbols
28 bicycles is the same as 3 whole symbols and one half of a symbol

| | |
|---|---|
| Tuesday |  |
| Wednesday |  |
| Thursday |  |
| Friday |  |
| Saturday |  |

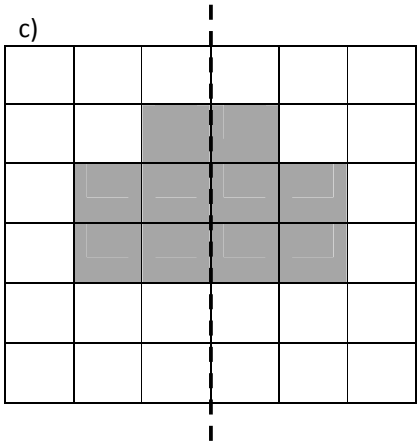
## Question 9 (November 2009 – 1380/1F)

a) The pentagon as order of rotational symmetry of 5. That means that you can turn it round 5 times and each time it looks the same before you get back to your starting position.

b) line of symmetry shown in red



c)



Mirror line

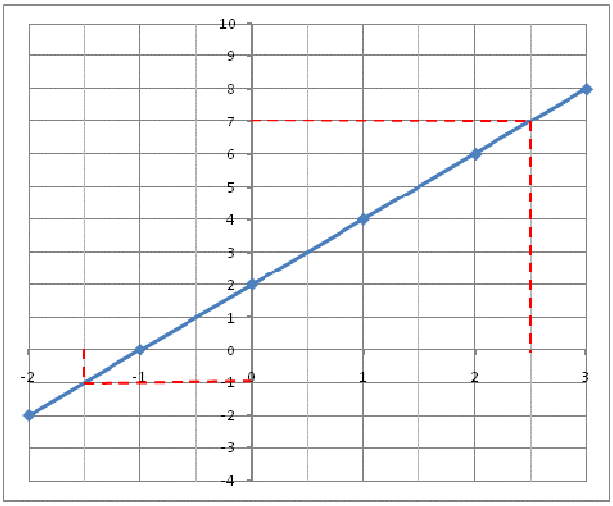
## Question 19 (November 2009 – 1380/1F)

a)

| $X$ | -2 | -1 | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|
| Y | -2 note 1 | 0 | 2 | 4 note 2 | 6 note 3 | 8 note 4 |

note 1: when $x$ = -2 then y = (2 x -2) + 2 = -4 + 2 = -2
note 2: when x = 1 then y = (2 x 1) + 2 = 2 + 2 = 4
note 3: when x = 2 then y = (2 x 2) + 2 = 4 + 2 = 6
note 4: when x = 3 then y = (2 x 3) + 2 = 6 + 2 = 8

b)




c) i) when $x$ = -1.5 then y = -1 (see red dashed line)
ii) when y = 7, then $x$ = 2.5 (see other red dashed line)

## Question 28 (November 2009 – 1380/2F)

It helps to put the ratios into a table as below:

| Piece one | Piece two | Piece three | Total |
|---|---|---|---|
| 2 | 3 | 4 | 9 |
| | | | 180 cm |

Then we can see that if the total is 9 then this has been multiplied by 20 to get 180 (180 ÷ 9 = 20) so we must multiply all the ratios by 20 as well.

| Piece one | Piece two | Piece three | Total |
|---|---|---|---|
| 2 | 3 | 4 | 9 |
| note 1 40 | note 2 60 | note 3 80 | 180 cm |

note 1: 2 x 20 = 40 cm
note 2: 3 x 20 = 60 cm
note 3: 4 x 20 = 80 cm

The longest piece of wood would be 80 cm

If you like these worked answers then why not purchase the complete set of answers for these question papers by visiting www.chattertontuition.co.uk/GCSE-maths-Edexcel-2009

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