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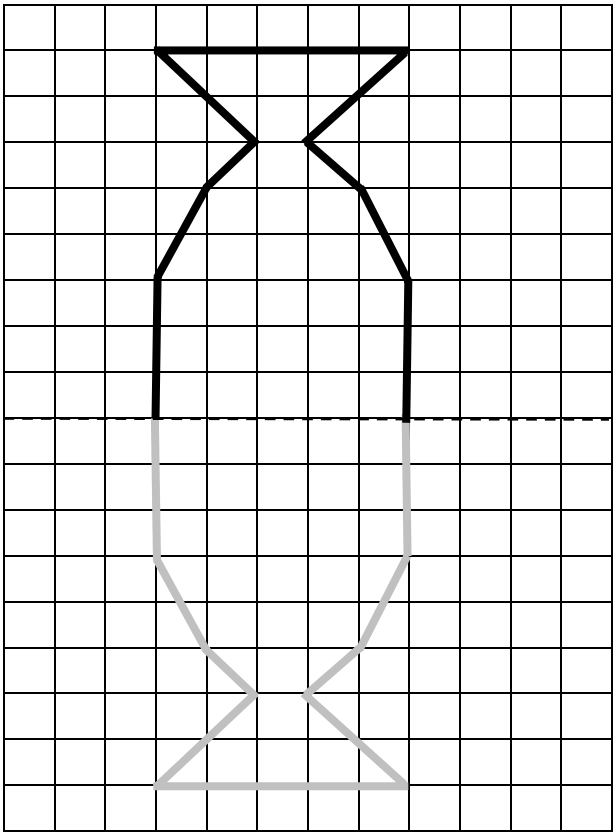
1. The holiday total for Mr & Mrs Smith and there children aged 10 and 14 given the table below is:

	Cost per Person
Adult	£ 950
Child : over 12	£ 652
Child : 12 or under	£ 375

Total £ 950
£ 950
£ 625
+ £ 375
£ 2900

21

2. Completing the diagram we have:



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3a. Ian starts running at 18 00 hrs and finishes at 21 00 hrs total time running is:

18 30 $\rightarrow$ 19 00 30 mins
19 00 $\rightarrow$ 21 00 2 hrs

Total 2hrs 30 mins or $2\frac{1}{2}$ hrs

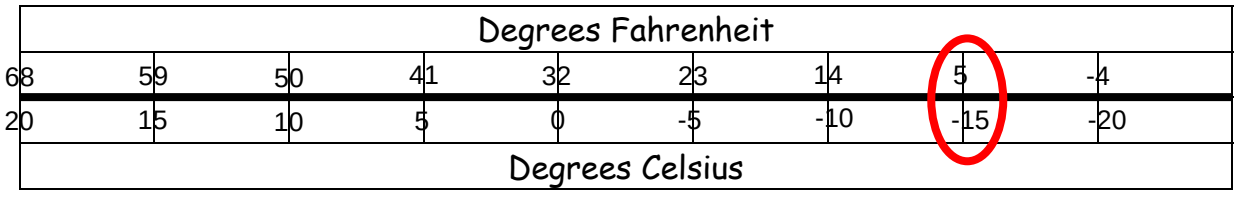
b. Since his average speed is 6 mph then distance ran is:

$$\text{Distance} = \text{speed} \times \text{time}$$

$$= \quad 6 \quad \times 2\frac{1}{2} = 15 \text{ miles}$$

(Remember time must be in hours only)

4a. Looking at the scale 5° Fahrenheit in Celsius is -15° C.



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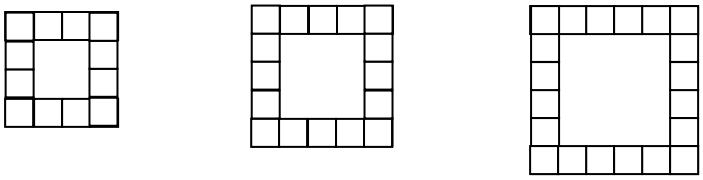
4b. From the table if temperature drops from 10° C to -5° C, then the Fahrenheit drop is:

$$50 - 23 = 27^\circ F$$

5. Given the patterns, we are adding on 4 tiles each time.



Size 1 Size 2 Size 3

(a) Completing the table we get:

Size Number	1	2	3	4	5	6		10
Number of tiles	12	16	20	24	28	32		48

(b) Steps for working out the rule:

4 x 3 + 8 = 20

1. Difference is 4
2. Part of rule is 4s
3. Correction factor, so that the rule works is, add on 8

Full rule is: $T = 4s + 8$ Check !!!!

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6. Given the 10 weights in grams for the goldfish.

58 , 64 , 66 , 67 , 70 , 73 , 73 , 74 , 83 , 92

(a) The mode is the number that appears most often 73g.

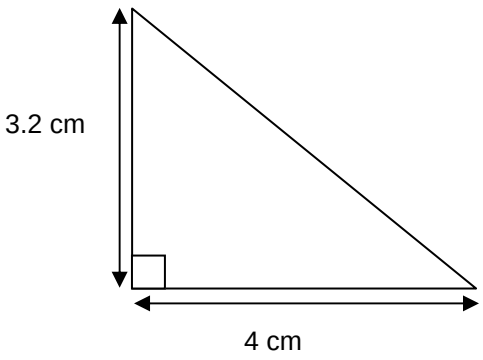
(b) The mean is:

(Add up all the numbers and divide by how many numbers there are)

$$7\overline{)72^{2}0} \quad \begin{matrix} 7\,2 \\ \end{matrix}$$

mean is 72g

7. Given the triangle, the area is given by:



$$\text{Area} = \frac{1}{2} \times \text{base} \times \text{height}$$

$$= \frac{1}{2} \times 4 \times 3.2$$

$$= 6.4 \text{ cm}^2$$

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8. (a) Given a 750ml bottle of wine fills 6 glasses, then each glass will contain:

$$6\overline{)7^{1}5^{3}0}\quad\begin{matrix}12\ 5\end{matrix}$$

each glass has 125ml

(b) Since everybody at the party is to get 2 drinks and there are 12 people this will be:

$$24 \times 125 = 3000\text{ml}$$

Each bottle contains 750 ml so they will need:

$$750\overline{)3000}\quad 4$$

4 bottles needed

9. Given Irene must score 19 to win and the second dart must be a double, another 5 ways of winning are:

First dart	Second Dart	Total
1	Double 9	19
7	Double 6	19
3	Double 8	19
5	Double 7	19
9	Double 5	19
11	Double 4	19
13	Double 3	19

10. Given the student gets 15% discount on the mark price of £360, he will pay:

Discount is

$$\frac{15}{100} \times 360 = £54$$

Student will pay £360 - £54 = £306

11. (a) Given Electrical Direct terms for buy a DVD recorder are;

Deposit £70 and 24 monthly payments of £15.25

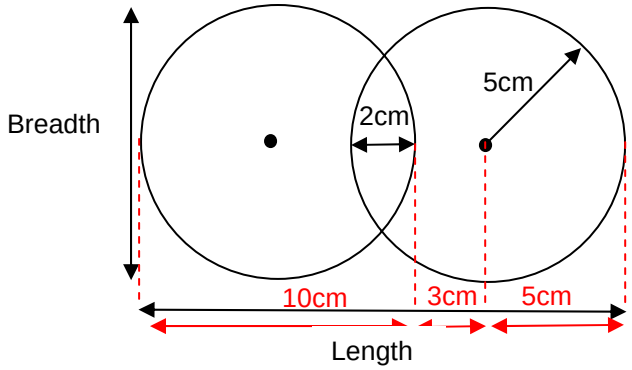
Total to buy will be:

$$£70 + 24 \times £15.25 = £70 + £366 = £436$$

(b) Anne will save:

$$£\ 436.00 - £\ 399.99 = £\ 36.01$$

12. (a) Given the diagram of the jewellery box and that the circles have radius 5cm, then breadth will be:



Breadth is simply 5cm + 5cm = 10cm

(b) The length of the box is:

5cm + 5cm + 3cm + 5cm = 18cm

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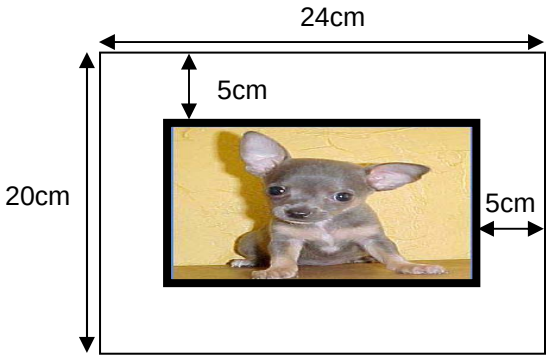
13. (a) Given the diagram of the photograph, with a border of 5cm, the length is:



The length is 24 – 5 -5 = 14cm

(b) The perimeter is the distance all the way round the photograph.

Breadth is 20 – 5 - 5 = 10 cm

Perimeter = 14 + 10 + 14 + 10 = 48cm

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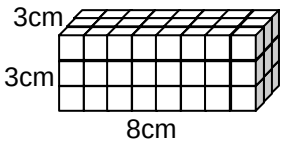
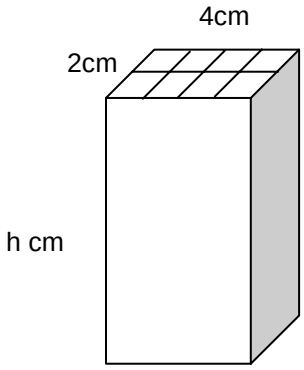
14. (b) Given all the cubes are 1cm in length, the volume is:



Volume = length x breadth x height
= 8 x 3 x 3
= 24 x 2
= $72cm^3$

Using all the cubes above, we can find the height of this new cube.

The volume will be the same since we are using all the same cubes as above.



Volume = length x breadth x height
72 = 4 x 2 x h
72 = 8 x h

h = 72 ÷ 8 = 9 cm

Height is equal to 9 cm