
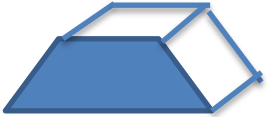


Question	Question	Answer
1. a)	Each circle represents 2 hours as given in the key. So Monday has 4 circles at 2 hours each so the answer is $4 \times 2 = 8$	8
b)	Tuesday has one and a half circles which is $1.5 \times 2 = 3$.	3
c)	Thursday is six hours which is there 3 full circles at 2 hours each. And Friday has 5 hours which is 2.5 circles of 2 hours each.	Thurs = 3 Fri = 2.5
2.	The whole length is 30cm and A and B are 16cm and 9cm. Therefore the length of C is $30 - 16 - 9$ which is 5cm.	5cm
3 a)	Realise that 50% is a half. Therefore half of £60 is £30.	£30
b)	Realise that 25% is a quarter. Therefore a quarter of £20 is 20 divided by 4 which is £5.	£5
4.	Accurately line up your ruler. Measure 3cm from P.	-
5. a)	Notice that each term is the previous term minus 2. Therefore the next term is $118 - 2 = 116$.	116
b)	The sixth term is therefore 114 and therefore the seventh term is 112.	112
c)	The series starts with an even number and subtracts even numbers so there will never be any odd numbers.	ODD
6. a)	The perimeter means the outside of the shape. Count the lines = 16cm.	16cm
b)	The area is the number of square so again count them = 12 cm^2 .	12 cm^2 .
c)	The volume is again the number of squares but don't forget the ones you can't see. There are 9 on the base and another six up the sides = 15 cm^3 .	15 cm^3
7. a)	The bus that leaves Shotton at 07:30am is in the first column, reading down this column and across to Alton shows it arrives in Alton at 08:30am.	08:30am

b)	The bus that leaves Prudhoe at 08:28 is in the second column and reading across arrives in Hexham at 08:45. It therefore takes $45-28 = 17$ mins.	17mins
c)	The bus that arrives in Hexham BEFORE 11.15 arrives in at 10.45am. Reading up on the table this bus leaves Crook at 10.15am.	10.15am
8 a)	Four thousand one hundred and seventeen.	
b)	Round to the nearest is one hundred is 4100	4100
9 a)	A vertex is a corner so the number of corners is 8	8
b)	The net clearly has a square base and four triangular sides so must be c	C
10 a)	Each small increment represents 1 mile and hour so it is $50 + 8 = 58$ miles per hour.	58 mph
b)	Each small increment now represents 0.2 gallons so the line is at 3.6 gallons.	3.6 gallons
c)	In order to fill the tank we need $7 - 3.6 = 3.4$ gallons.	3.4 gallons
11 a)	Coordinates are always along the x axis (horizontal) followed by the y axis (vertical) so the co-ordinate of is P(4,6).	P(4,6)
b)	Similarly to part a) Q(0,3)	Q(0,3)
c)	The midpt can be found by observation or using $M\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ then M(2, 4.5)	M(2,4.5)
12 a)	Remember that -4 is less than -1 so the lowest is -4.	-4
b)	Difference in temperature is 5 minus -2 which is $5 + 2 = 7$.	7
c)	The temperature difference between -1 and 5 is six degrees so the temperature half way between the two is $-1+3$ or $5-3$ which is 2.	2
13. a)	You can never get an eight when you throw a dice so this is	IMPOSSIBLE

	IMPOSSIBLE.	
b)	You can either get a head or a tail so this is EVEN.	EVEN
c)	December 6 th always follows December 5 th in the same year so this is CERTAIN.	CERTAIN
14 a)	Using BODMAS – multiply comes before minus so this is $20 - 8 = 12$.	12
b)	Similarly this becomes $18 + 6 = 24$	24
c)	This time the brackets come first so this is $7 \times 7 = 49$.	49
15a)	$8x - 4x$ is like saying 8 apples – 4 apples = 4 apples therefore the answer is $4x$.	$4x$
b)	$y \times y \times y$ can be written as y^3 .	y^3
c)	Collect together the 'like' terms so $4x - 2x + 3y + 5y = 2x + 8y$.	$2x + 8y$
16 a)	Use your protractor to draw both angles and a line of longer length and where the lines cross will make the triangle.	
b)	Carefully measure the top angle at C.	90
17 a)	Do long multiplication $\begin{array}{r} 36 \times \\ \underline{24} \\ 144 \\ \underline{720} \\ \underline{864} \end{array}$	864
18	If they are parallel then they would be at the same angle or the two angles would add up to 180° . In this case they add up to 184° so they are NOT parallel and Ben is right.	NOT – Ben
19 a)	The angles on a line add up to 180° therefore the angle p is $180 - 124 = p = 56^\circ$	$p = 56^\circ$
b)	The small square in the corner means the total angle is a right angle and is therefore 90° therefore $q = 90 - 68 = 22^\circ$	22°

20 a)	$\frac{90}{600} = \frac{9}{60} = \frac{3}{20}$	$\frac{3}{20}$																				
b)	$\frac{180}{600} \times 100 = \frac{180}{6} = 30$	30																				
c)	If 90 are yellow and 180 are red then there are $600 - 180 - 90 = 330$ that are green or blue. A third of these are green $= \frac{330}{3} = 110$	110																				
21 a)	<table border="1"> <thead> <tr> <th></th> <th>Walk</th> <th>Car</th> <th>Other</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>Boys</td> <td>15</td> <td>54-15-14 = 25</td> <td>14</td> <td>54</td> </tr> <tr> <td>Girls</td> <td>37-15 = 22</td> <td>8</td> <td>16</td> <td>22+8+16=46</td> </tr> <tr> <td>TOTAL</td> <td>37</td> <td>25+8 = 33</td> <td>14+16=30</td> <td>100</td> </tr> </tbody> </table>		Walk	Car	Other	TOTAL	Boys	15	54-15-14 = 25	14	54	Girls	37-15 = 22	8	16	22+8+16=46	TOTAL	37	25+8 = 33	14+16=30	100	
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b)	The probability is 37 pupils out of 100 pupils which is $\frac{37}{100}$.	$\frac{37}{100}$																				
c)	There are 46 girls 24 of who DID NOT walk so it is $\frac{24}{46}$.	$\frac{24}{46}$																				
22	Compasses are c pence and rulers are r pence therefore 2 compasses and 4 rulers are = $2c + 4r$.	$2c + 4r$																				
23	The total angle in a quadrilateral is 360° . Therefore $\alpha = 360 - 120 - 140 - 58 = 42^\circ$.	42°																				
24 a)	$4x + 1 = 9$ $4x = 9 - 1$ $4x = 8$ $x = 2$	$x = 2$																				
b)	$2y - 1 = 12$ $2y = 13$ $y = \frac{13}{2}$	$y = \frac{13}{2}$																				
25 a)	90 degrees is a quarter turn so it will end up in bottom left corner. The point (2,2) will be at (2,-2).	-																				
b)	From P to Q it is 3 spaces to the right and 1 down. $T \begin{pmatrix} 3 \\ -1 \end{pmatrix}$	$T \begin{pmatrix} 3 \\ -1 \end{pmatrix}$																				

26 a)	The shape is a rectangle so the long sides must be the same length.	
b)	$4x + 1 = 2x + 12$ $4x = 2x + 12 - 1$ $4x = 2x + 11$ $4x - 2x = 11$ $2x = 11$ $x = \frac{11}{2}$	$x = \frac{11}{2}$
c)	<p>The perimeter is the total of ALL the sides given by</p> $x + x + 2x + 12 + 4x + 1 = 8x + 13 = 8 \times \frac{11}{2} + 13$ $= 44 + 13 = 57$	57 cm
27. a)		
b)		
28 a)	<p>How many of each type of magazine do you read each week</p> <p><input type="checkbox"/> Fashion/women's magazines</p> <p><input type="checkbox"/> Men's magazines</p> <p><input type="checkbox"/> Car magazines</p> <p><input type="checkbox"/> Comics</p> <p><input type="checkbox"/> Other</p>	
b)	<p>How many magazines have you read in the last month.</p> <p><input type="checkbox"/> 0</p> <p><input type="checkbox"/> 1-2</p> <p><input type="checkbox"/> 2-4</p> <p><input type="checkbox"/> 4+</p>	
29 a)	There are three numbers after the decimal so we move the decimal point 3 places to the left. Giving: 15.456	15.456
b)	There are five numbers after the decimal point so we move the decimal point 5 places to the left. Giving: 0.15456	0.15456
c)	From the top equation we can see that $15456 \div 48 = 322$ but 4.8 is	3220

	10 times less so $15456 \div 4.8 = 3220$.	
30 a)	$2x^2 = 72$ $x^2 = 36$ $x = \pm 6$	$x = \pm 6$
b)	$\begin{array}{r} 2 \overline{) 72} \\ \underline{2 \overline{) 36}} \\ 2 \overline{) 18} \\ \underline{3 \overline{) 9}} \\ 3 \overline{) 3} \end{array}$ <p>Prime factors are: $2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2$</p>	$2^3 \times 3^2$