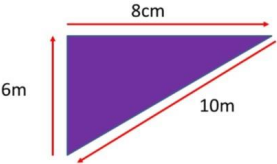
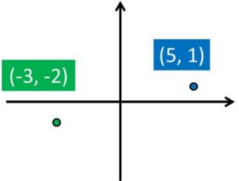

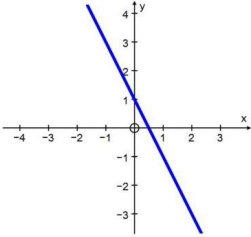




### Mr Barton's Year 11 - Quiz 3

Name: KURTIS DAVIES  
 Date: 28/11/2014  
 Mark: 7/10

Question	Given Answer		Correct Answer	
	Value	Reason	Value	Reason
<p>Solve the equation</p> $\frac{x + 3}{3} = 6$ <p>A <math>x = 9</math>    B <math>x = 21</math>    C <math>x = 5</math>    D <math>x = 15</math></p>	D	6 times 3 = 18 18-3=15	D	you want to get x on its own, so first get rid of the over 3 by multiplying both sides by three, so you get $x+3=18$ then take three from both sides so you get $x=15$
 <p>To work out the area of this right-angled triangle you do...</p> <p>A <math>6 + 8 + 10</math>    B <math>6 \times 8 \times 10</math>        C <math>\frac{6 \times 8 \times 10}{2}</math>    D <math>\frac{6 \times 8}{2}</math></p>	D	Base times height divided by two	D	To work out the area of a triangle, you must multiply the base by the height, then divide that answer by 2. In the given triangle, the base is 6 and the height is 8. First of all, I would need to do $6 \times 8$ (which should give me an answer of 48) then divide 48 by 2 (which should give me an answer of 24). So, to work out the area of this [right angled] Trjánglė I would need to $(6 \times 8) \div 2$ .
 <p>How would you work out the distance between these two co-ordinates?</p> <p>A <math>\sqrt{2^2 + 1^2}</math>    B <math>\sqrt{3^2 + 2^2}</math>        C <math>\sqrt{8^2 + 3^2}</math>    D <math>\frac{1 - (-2)}{5 - (-3)}</math></p>	C		C	If you imagine there is a right angled triangle where the hypotenuse connects the two points then you can use pythagoras to work out the length of the hypotenuse- the distance between the points. so the base of this triangle (the difference between the x coordinates) is 8 and the height of the triangle is 3 (the difference between the y coordinates). $a \text{ squared} + b \text{ squared} = c \text{ squared}$ $8 \text{ squared} + 3 \text{ squared} = c \text{ squared}$ $\text{root } (8 \text{ squared} + 3 \text{ squared}) = c$
<p><b>Equidistant from two points</b>        A ship sails along equidistant from two lighthouses A and B.        What is the locus of the ship going to be?</p>  <p>What shape describes the locus of points equidistant from 2 points?</p> <p>A. Oval.    B. Perpendicular bisector        C. Rectangle.    D. Angle bisector</p>	A	?	B	Every point on a perpendicular bisector is the same distance from 2 points

Question	Given Answer		Correct Answer	
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<div style="text-align: center; background-color: red; color: white; padding: 10px; font-size: 2em; font-weight: bold;">5352</div> <p>What is this rounded to 2 significant figures?</p> <p><b>A</b> 5000      <b>B</b> 5400</p> <p><b>C</b> 5300      <b>D</b> 53</p>	<b>B</b>	352 rounded is 400	<b>B</b>	look at the number after two figures and see whether it is higher or lower than five. if it is higher than five, you round up but if it is lower than five, you round down and add the remaining zeros on the end.
<p>There are 7 boys and 9 girls in a class. The teacher chooses a student at random. What is the probability that he chooses a boy?</p> <p>a) <math>\frac{7}{9}</math>                      c) 70%</p> <p>b) <math>\frac{7}{16}</math>                      d) <math>\frac{1}{2}</math></p>	<b>B</b>	Because there are 16 students and 7 are boys	<b>B</b>	16 kids 7 are boys
<p>What is the equation of the line?</p> <p>a) <math>y = 2x + 1</math></p> <p>b) <math>y = 1 - x</math></p> <p>c) <math>y = 1 - 2x</math></p> <p>d) <math>y = 1 - 0.5x</math></p>  <p>Designed using: Autograph</p>	<b>D</b>	It crosses the y axis at 1 so it's 1x then crosses the x axis at 0.5 and the line is backwards so its -	<b>C</b>	<p><math>y = 1 - 2x</math> is the same as <math>y = -2x + 1</math></p> <p>the gradient is the number in front of x, e.g. in this equation it is 2.</p> <p>the gradient is how many squares the line goes up for every one it goes across. the line goes two squares down for every one it goes across (and as it is going down it has a negative gradient).</p> <p>where it crosses the y axis (the y intercept) is the number on its own in the equation, so in this equation that is 1.</p>
<p>Factorise <math>g^2 + 3g</math></p> <p>a: <math>g(g + 3)</math>                      b: <math>3g(g + 1)</math></p> <p>c: <math>g(2g + 3)</math>                      d: <math>g(g + 3g)</math></p>	<b>A</b>	G time g is g squared and g time 3 is 3g	<b>A</b>	<p>to factorise you find the highest common factor of each thing.</p> <p>the highest common factor (biggest number that goes into them both) of g squared and 3g is g. so you put g outside the bracket then work out what must go inside.</p> <p><math>g \text{ squared} / g = g</math>  and <math>3g / g = 3</math>  so <math>g + 3</math> goes inside the brackets.</p>
<p>Expand these brackets <math>(x-3)^2</math></p> <p>a) <math>2x - 6</math>                      b) <math>x^2 - 6x + 9</math></p> <p>c) <math>x^2 + 9</math>                      d) <math>x^2 - 6x - 9</math></p>	<b>D</b>		<b>B</b>	<p><math>(x-3)</math> squared is the same as <math>(x-3)(x-3)</math></p> <p>you can use FOIL to expand it</p> <p>First- x times x = x squared  Outside- x times -3 = -3x  Inside- -3 times x = -3x  Last- -3 times -3 = 9  (negative signs cancel each other out)</p> <p>So you get x squared -3x -3x +9 which is the same as x squared -6x +9</p>

Question	Given Answer		Correct Answer	
	Value	Reason	Value	Reason
<p>Which number is smallest?</p> <p><b>A</b> <math>5\sqrt{3}</math></p> <p><b>B</b> <math>\sqrt{15}</math></p> <p><b>C</b> 4</p> <p><b>D</b> <math>3\sqrt{5}</math></p>	B		B	<p>I worked this out by writing A and D differently</p> <p><math>A = 5 \times \text{root } 3 = \text{root } 25 \times \text{root } 3 = \text{root } 75 = \text{root } 5 \times \text{root } 15</math></p> <p><math>D = 3 \times \text{root } 5 = \text{root } 9 \times \text{root } 5 = \text{root } 45 = \text{root } 3 \times \text{root } 15</math></p> <p>root 3 and root 5 will both be bigger than one, so timesing root 15 by either of them will make a number that is bigger than root 15</p> <p>so A and D are bigger than B, they cannot be the smallest number</p> <p>so it is either B or C. we know that 4 is root 16, so root 15 will be smaller than four</p> <p>so B must be the smallest.</p>