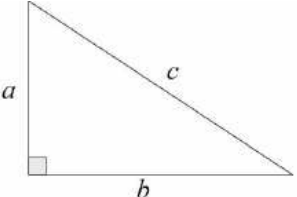
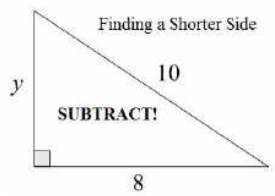
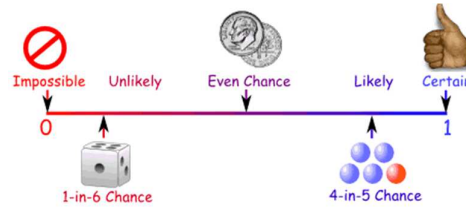
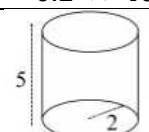


KNOWLEDGE ORGANISER – YEAR 8 TERM 4

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	Topic	Information	Examples	Hegarty Clip
1	Pythagoras' Theorem	<p>For any right angled triangle:</p>  <p style="text-align: center;">$a^2 + b^2 = c^2$</p> <p>Used to find missing lengths. a and b are the shorter sides, c is the hypotenuse (longest side).</p>	 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $a = y, b = 8, c = 10$ $a^2 = c^2 - b^2$ $y^2 = 100 - 64$ $y^2 = 36$ $y = 6$ </div>	497-504
2	Probability	<p>The likelihood/chance of something happening.</p> <p>Is expressed as a number between 0 (impossible) and 1 (certain).</p> <p>Can be expressed as a fraction, decimal, percentage or in words (likely, unlikely, even chance etc.)</p>		349-357
3	Theoretical Probability	$\frac{\text{Number of Favourable Outcomes}}{\text{Total Number of Possible Outcomes}}$	<p>Probability of rolling a 4 on a fair 6-sided die = $\frac{1}{6}$.</p>	
4	Relative Frequency	$\frac{\text{Number of Successful Trials}}{\text{Total Number of Trials}}$	<p>A coin is flipped 50 times and lands on Tails 29 times.</p> <p>The relative frequency of getting Tails = $\frac{29}{50}$.</p>	
5	Expected Outcomes	<p>To find the number of expected outcomes, multiply the probability by the number of trials.</p>	<p>The probability that a football team wins is 0.2 How many games would you expect them to win out of 40?</p> $0.2 \times 40 = 8 \text{ games}$	
6	Surface Area of a Cylinder	<p>Curved Surface Area = πdh or $2\pi rh$</p> <p>Total SA = $2\pi r^2 + \pi dh$ or $2\pi r^2 + 2\pi rh$</p>	 $\text{Total SA} = 2\pi(2)^2 + \pi(4)(5) = 28\pi$	584-587