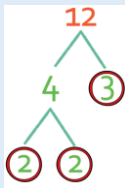
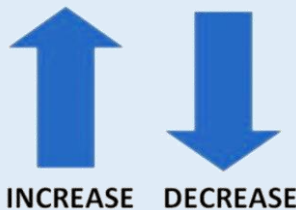
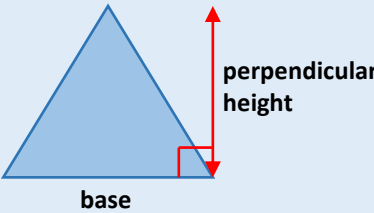
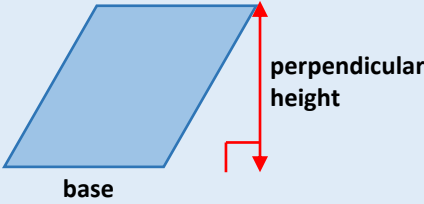
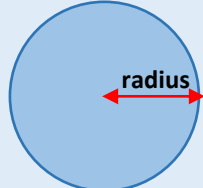
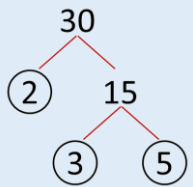
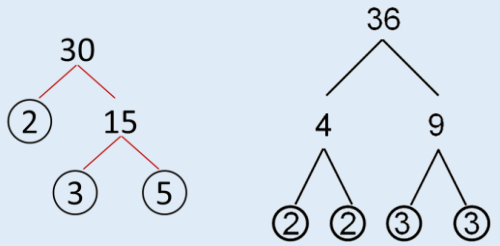
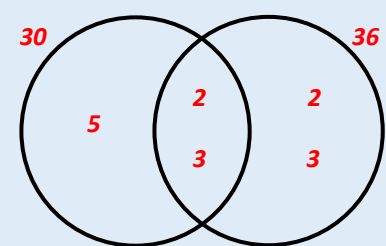
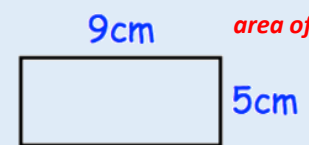
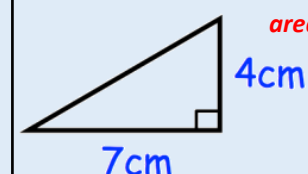
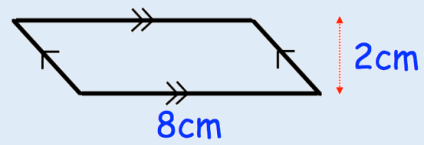
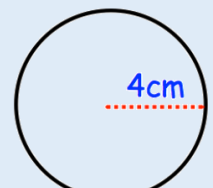


Mathematics	Applications of number	Year 9	Term 1
<div>Number</div> <div><p>Integer – A whole number</p><p>Prime Number – An integer that is only divisible by one and itself. <i>e.g. 2, 3, 5, 7, 11 are the first five prime numbers</i></p><p>Product of Primes – A multiplication where all factors are prime numbers. <i>e.g. 12 = 2 x 2 x 3</i></p><div></div><p>Factor – An integer that divides exactly into a whole number without a remainder.</p><p>Multiple – The result of multiplying a number by an integer.</p><p>Highest Common Factor - The highest value factor that is shared by two or more numbers.</p><p>Lowest Common Multiple – The lowest value multiple that is shared by two or more number.</p><p>Product – The result a multiplication</p><p>Sum – The result of an addition</p><p>Difference – The result of a subtraction</p></div>	<div>Percentages</div> <div><p>Percentage – A fraction out of 100</p><p>% is the symbol used to represent a percentage</p><p>Increase – To make an amount bigger. The new amount will be greater than 100%</p><p>Decrease – To make an amount smaller. The new amount will be less than 100%</p><div></div><p>Multiplier – The number used to increase or decrease an amount by a given percentage</p></div>	<div>Area</div> <div><p>Area of a rectangle = base x perpendicular height</p><div></div><p>Area of a triangle = $\frac{\text{base} \times \text{perpendicular height}}{2}$</p><div></div><p>Area of a parallelogram = base x perpendicular height</p><div></div><p>Area of a circle = $\pi \times \text{radius}^2$</p><div></div></div>	

WORKED EXAMPLES

Number	Percentages	Area
<p>Write 30 as the product of its prime factors.</p>  <p><i>Find a factor pair of 30 and circle the prime numbers (2). For any number that is not prime (15), find a factor pair and keep repeating this.</i></p> <p>$30 = 2 \times 3 \times 5$</p> <p>Work out the HCF and LCM of 30 and 36.</p>  <p>$30 = 2 \times 3 \times 5$ $36 = 2 \times 2 \times 3 \times 3$</p>  <p>$HCF = \text{multiply MIDDLE} = 2 \times 3 = 6$</p> <p>$LCM = \text{multiply ALL} = 5 \times 2 \times 3 \times 2 \times 3 = 180$</p>	<p>Find 6% of £400</p> <p>$6\% = 6 \div 100 = 0.06$</p> <p>$£400 \times 0.06 = £24$</p> <p>Increase £400 by 6%</p> <p>$100\% + 6\% = 106\% = 106 \div 100 = 1.06$</p> <p><i>We need to find 106% of £400</i></p> <p>$= £400 \times 1.06 = £424$</p> <p>Decrease £400 by 6%</p> <p>$100\% - 6\% = 94\% = 94 \div 100 = 0.94$</p> <p><i>We need to find 94% of £400</i></p> <p>$= £400 \times 0.94 = £376$</p>	<p>Work out the area of the rectangle.</p>  <p>$\text{area of a rectangle} = \text{base} \times \text{height}$ $= 9\text{cm} \times 5\text{cm}$ $= 45\text{cm}^2$</p> <p>Work out the area of the triangle.</p>  <p>$\text{area of a triangle} = \frac{\text{base} \times \text{height}}{2}$ $= \frac{7\text{cm} \times 4\text{cm}}{2}$ $= 14\text{cm}^2$</p> <p>Work out the area of the parallelogram.</p>  <p>$\text{area of a parallelogram} = \text{base} \times \text{height}$ $= 8\text{cm} \times 2\text{cm}$ $= 16\text{cm}^2$</p> <p>Work out the area of the circle.</p>  <p>$\text{area of a circle} = \pi \times \text{radius}^2$ $= \pi \times 4^2$ $= 16\pi \text{ cm}^2$</p>