
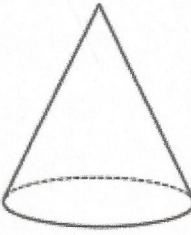


9th October	
<p>The distance between the Sun and Earth is 150,000,000 km, correct to 2 significant figures.</p> <p>Write down the lower bound</p> <p style="text-align: center;"><math>145,000,000 \text{ km}</math></p>	<p>Write down the upper bound</p> <p style="text-align: center;"><math>155,000,000 \text{ km}</math></p>
<p>What number does not have a reciprocal?</p> <p style="text-align: center;">0</p>	
<p>Write down the equation of the line that is perpendicular to <math>3x - y = 1</math> and passes through <math>(0, 7)</math></p> <p style="text-align: center;"><math>y = 3x - 1</math> <math>m = 3</math></p>	<p style="text-align: center;"><math>y = -\frac{1}{3}x + 7</math></p>
<p>Solve using the quadratic formula</p> <p><math>x^2 + 2x - 10 = 0</math></p> <p style="text-align: center;"><math>a = 1</math> <math>b = 2</math> <math>c = -10</math></p> <p style="text-align: center;"><math>x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}</math></p>	<p style="text-align: center;"><math>x = \frac{-2 \pm \sqrt{4 - (-40)}}{2}</math></p> <p style="text-align: center;"><math>x = \frac{-2 + \sqrt{44}}{2}</math> or <math>x = \frac{-2 - \sqrt{44}}{2}</math></p> <p style="text-align: center;"><math>x = 2.317</math> or <math>x = -4.317</math></p>
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>Cone A</p>  <p>8cm</p> </div> <div style="text-align: center;"> <p>Cone B</p>  </div> </div>	<p>Cone A and cone B are mathematically similar.</p> <p>The total surface area of cone A is <math>120\text{cm}^2</math></p> <p>The total surface area of cone B is <math>1080\text{cm}^2</math></p> <p>The diameter of cone A is 8cm.</p> <p>Work out the diameter of cone B.</p> <p style="text-align: center;"><math>1080 \div 120 = 9</math></p> <p style="text-align: center;"><math>\sqrt{9} = 3</math></p> <p style="text-align: center;"><math>8 \times 3 = 24\text{cm}</math></p>