
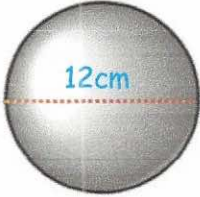
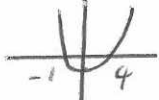


| 25th December | |
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| <p>Here are the first 5 terms of a quadratic sequence</p> <p>4 10 18 28 40</p> <p>Find an expression, in terms of n, for the nth term of this quadratic sequence</p> |  <p>4 10 18 28 40 6 8 10 12 2 2 2</p> <p>$a=1$ $b=3$ $c=0$</p> <p>$n^2 + 3n$</p> |
| <p>A solid sphere has a diameter of 12cm. The sphere is made from glass. The density of the glass is 3.02g/cm</p> <p>Find the mass of the glass sphere.</p> <p>d m v $m = d \times v$</p> |  <p>$v = \frac{4}{3} \pi r^3$ $= \frac{4}{3} \times \pi \times 6^3$ $= 904.778... \text{cm}^3$</p> <p>$m = 904.778... \times 3.02$ $m = 2732.4g$ $m = 2.732kg$</p> |
| <p>Solve</p> <p>$x^2 - 4 > 3x$</p> <p>$x^2 - 3x - 4 > 0$ $(x-4)(x+1)$</p>  | <p>$x < -1$ or $x > 4$</p> |
| <p>A circle has equation $x^2 + y^2 = 25$</p> <p>Work out the length of the diameter.</p> <p>$r^2 = 25$ $r = 5$</p> | <p>$d = 10$</p> |
| <p>A group of scientists want to estimate the number of eels in a lake. They catch and ring 200 eels. They return the 200 eels to the lake. They then catch 400 fish. Of these, 62 are ringed.</p> | <p>Estimate the number of eels in the lake.</p> <p>$\frac{200}{N} = \frac{62}{400}$</p> <p>$N = \frac{200 \times 400}{62}$ $N \approx 1290$</p> |