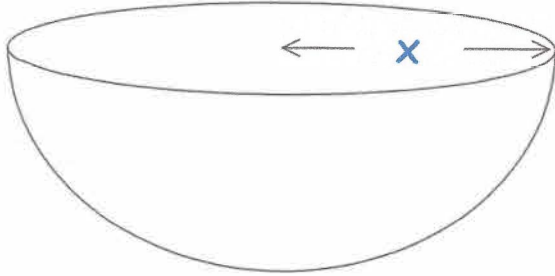


12th April	
$f(x) = (x + 5)(x + 3a)$ Given $f(0) = 18$	Find a $(0+5)(0+3a) = 18$ $15a = 18$ $a = 1.2$
Two consecutive integers are multiplied together. The result is added to the largest of the two integers. Prove the answer is a square number	$n(n+1) = n^2 + n$ $(n^2 + n) + (n+1) =$ $n^2 + 2n + 1 =$ $(n+1)(n+1)$ $= (n+1)^2 \quad \text{QED.}$
A is directly proportional to the cube root of B. Find the percentage increase in A if B is increased by 30%.	$A \propto \sqrt[3]{B}$ $A = k \times \sqrt[3]{B}$ $\sqrt[3]{1.3} = 1.09139\dots$ 9.139%
 <p>A solid glass paperweight has a mass of 500 grams.</p> <p>The glass has a density of 3.5 g/cm^3</p> <p>Find x</p>	$\left(\frac{4}{3} \times \pi \times x^3\right) = 2$ $v = \frac{2}{3} \pi x^3$ $d = \frac{m}{v} \quad v = \frac{m}{d} = \frac{500}{3.5}$ $v = 142.8571429$ $\frac{2}{3} \pi x^3 = 142.8571429$ $\pi x^3 = 214.2857143$ $x^3 = 68.20926133$ $x = 4.0858 \text{ cm}$