
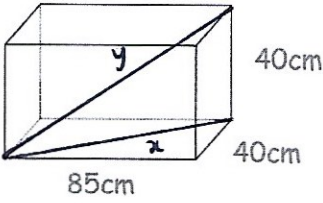
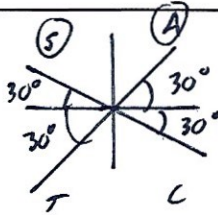


16th February		 Corbettmaths
 <p>Will a one metre rod fit inside the box? yes</p>	$x^2 = 40^2 + 85^2$ $x = \sqrt{8825}$ $y^2 = (\sqrt{8825})^2 + 40^2$ $y^2 = 10425$ $y = 102.1 \text{ cm}$	
$f(x) = 9 - 2x$ $g(x) = 1 - x^2$ <p>Find <math>ffg(x)</math></p>	$fg(x) = 9 - 2(1 - x^2)$ $= 9 - 2 + 2x^2$ $= 2x^2 + 7$ $ffg(x) = 9 - 2(2x^2 + 7)$ $= 9 - 4x^2 - 14$ $= -5 - 4x^2$	
$y = \frac{5x^3(x^2 - 3x)}{x}$ <p>Work out <math>\frac{dy}{dx}</math></p>	$y = 5x^2(x^2 - 3x)$ $y = 5x^4 - 15x^3$ $\frac{dy}{dx} = 20x^3 - 45x^2$	
<p>Solve the equation</p> $4\cos^2 x + 8\sin x - 7 = 0$ <p>for <math>0^\circ \leq x \leq 360^\circ</math></p> $4(1 - \sin^2 x) + 8\sin x - 7 = 0$ $4 - 4\sin^2 x + 8\sin x - 7 = 0$ $0 = 4\sin^2 x - 8\sin x + 3$ $(2\sin x - 3)(2\sin x - 1) = 0$ $\sin x = \frac{3}{2} \quad \sin x = \frac{1}{2}$ <p style="text-align: center;">X Not possible.</p>	 $x = 30^\circ, 150^\circ$	