


12th December	
Solve $12x^2 + 25x + 12 = 0$	 Corbettmaths $(3x+4)(4x+3) = 0$ $x = -\frac{4}{3}, x = -\frac{3}{4}$
$y = (x^4 - 2)^2$ Work out $\frac{dy}{dx}$	$y = x^8 - 4x^4 + 4$ $\frac{dy}{dx} = 8x^7 - 16x^3$
Show that $(2x + 5)$ is a factor of $2x^3 + x^2 - 16x - 15 = f(x)$	$f\left(-\frac{5}{2}\right) = -\frac{125}{4} + \frac{25}{4} + 40 - 15$ $= 0$ $\Rightarrow 2x + 5$ factor
The n th term of a sequence is $n^2 + 6n$ Two consecutive terms in the sequence have a difference of 35 Work out the two terms.	$(n+1)^2 + 6(n+1) - n^2 - 6n = 35$ $n^2 + 2n + 1 + 6n + 6 = 35$ $2n = 28$ $n = 14$ $t_{14} = 280, t_{15} = 315$
Show that $\sin x - \sin x \cos^2 x \equiv \sin^3 x$	$LHS = \sin x (1 - \cos^2 x)$ $= \sin x \times \sin^2 x$ $= \sin^3 x$