


31st August	
Factorise fully $6(x+2)^4 + 10(x+2)^3$ Do not attempt to expand brackets.	 Corbettmaths $= 2(x+2)^3 [3(x+2) + 5]$ $= \underline{2(x+2)^3(3x+11)}$
Solve $y^{-\frac{1}{3}} = \frac{3}{4}$	$y^{\frac{1}{3}} = \frac{4}{3}$ $\Rightarrow y = \left(\frac{4}{3}\right)^3 = \underline{\frac{64}{27}}$
A curve has equation $y = x^3 + 2x^2$ Find the gradient of the normal to the curve at the point where $x = 5$	$\frac{dy}{dx} = 3x^2 + 4x$ $x = 5 \Rightarrow \frac{dy}{dx} = 95$ $\Rightarrow \underline{m_{\perp} = -\frac{1}{95}}$
Find the coefficient of the x^2 term in the expansion of $(1 - 2x)^6$	$\begin{array}{r} 1 \quad 6 \quad 15 \dots \\ 1 \quad -2x \quad 4x^2 \dots \\ \downarrow \\ \dots 60x^2 \dots \\ \underline{\text{coeff} = 60} \end{array}$
Work out the matrix that transforms the unit square by a reflection in line $y = -x$	$(1, 0) \rightarrow (0, -1)$ $(0, 1) \rightarrow (-1, 0)$ $\underline{\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}}$