


21st October	
Rationalise and simplify $\frac{\sqrt{5}-7}{\sqrt{5}+1}$	 Corbettmaths $\times \frac{\sqrt{5}-1}{\sqrt{5}-1}$ $= \frac{12-8\sqrt{5}}{5-1}$ $= \underline{3-2\sqrt{5}}$
Solve $\frac{2}{x^2} + \frac{13}{x} + 6 = 0$	$2 + 13x + 6x^2 = 0$ $(x+2)(6x+1) = 0$ $x = \underline{-\frac{1}{6}, -2}$
<p>The line <math>l</math> is a tangent to the circle <math>(x+2)^2 + (y+1)^2 = 20</math> at the point <math>P</math>.</p> <p><math>P</math> is the point <math>(-6, 1)</math></p> <p>Work out the equation of the line <math>l</math></p>	$C(-2, -1)$ $m_{CP} = \frac{1+1}{-6+2} = -\frac{1}{2}$ $m_{\perp} = 2$ $l: y-1 = 2(x+6)$ $\underline{y = 2x+13}$
<p>Find the range of values of <math>x</math> for which the function</p> $f(x) = 3 + 10x - 8x^2$ <p>is increasing.</p>	$\frac{dy}{dx} = 10 - 16x$ $\text{Incr} \Rightarrow 10 - 16x > 0$ $10 > 16x$ $x < \underline{\frac{5}{8}}$