


3rd June										
Work out $\begin{pmatrix} 3 & 0 \\ -1 & 2 \end{pmatrix} \begin{pmatrix} 8 & -1 \\ -2 & 9 \end{pmatrix}$	 Corbettmaths $= \underline{\underline{\begin{pmatrix} 24 & -3 \\ -12 & 19 \end{pmatrix}}}$									
Solve $3\tan\theta = 1.8$ for $0^\circ \leq \theta \leq 360^\circ$	$\Rightarrow \tan\theta = 0.6$ $\theta = \underline{\underline{31.0^\circ, 211.0^\circ}}$									
Use Pascal's triangle to expand $(x - y)^5$	$\begin{array}{cccccc} 1 & 5 & 10 & 10 & 5 & 1 \\ x^5 & x^4 & x^3 & x^2 & x & 1 \\ 1 & -y & y^2 & -y^3 & y^4 & -y^5 \\ \hline x^5 - 5x^4y + 10x^3y^2 - 10x^2y^3 & & & & & \\ & & & & & + 5xy^4 - y^5 \end{array}$									
The curve C has equation $y = -x^3 + \frac{33}{2}x^2 - 84x + 1$ Work out the coordinates of any stationary point on this curve and determine their nature	$\frac{dy}{dx} = -3x^2 + 33x - 84$ $\frac{d^2y}{dx^2} = -6x + 33$ $\text{At SPs, } 3x^2 - 33x + 84 = 0$ $\Rightarrow x^2 - 11x + 28 = 0$ $\Rightarrow (x - 4)(x - 7) = 0$ $\Rightarrow x = 4, 7$ <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>x</th> <th>$\frac{d^2y}{dx^2}$</th> <th>SP</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>9</td> <td>$(4, -135)$ MIN</td> </tr> <tr> <td>7</td> <td>-9</td> <td>$(7, -12\frac{1}{2})$ MAX</td> </tr> </tbody> </table>	x	$\frac{d^2y}{dx^2}$	SP	4	9	$(4, -135)$ MIN	7	-9	$(7, -12\frac{1}{2})$ MAX
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