
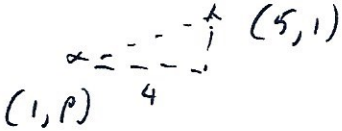
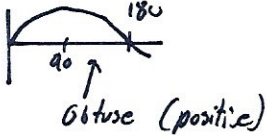


11th March	
Solve $2x^2 + 5x + 2 = 0$ $(x+2)(2x+1) = 0$ $x = -2$ or $x = -\frac{1}{2}$	 Corbettmaths
The line passing through (1, p) and (5, 1) has a gradient of 0.75  Find p. 	$4 \times 0.75 = 3$ $1 - 3 = -2$ $p = -2$
The point (4, a) is invariant when transformed by the matrix $\begin{pmatrix} -5 & -2 \\ 3 & 2 \end{pmatrix}$  Find the value of a	$\begin{pmatrix} -5 & -2 \\ 3 & 2 \end{pmatrix} \begin{pmatrix} 4 \\ a \end{pmatrix} = \begin{pmatrix} 4 \\ a \end{pmatrix}$ $-20 - 2a = 4$ $-2a = 24$ $a = -12$
Angle $\theta$ is obtuse and $\cos\theta = -\frac{12}{13}$  Work out the value of $\sin\theta$ 	$\sin^2\theta + \cos^2\theta = 1$ $\sin^2\theta + \frac{144}{169} = 1$ $\sin^2\theta = \frac{25}{169}$ $\sin\theta = \pm \frac{5}{13} \quad \therefore \sin\theta = \frac{5}{13}$
A curve has equation $y = 4x^2 - x + 1$  At point Q on the curve, the tangent is parallel to the line $y = 9 - 3x$  Work out the coordinates of Q. $\left(-\frac{1}{4}, \frac{3}{2}\right)$	$\frac{dy}{dx} = 8x - 1$ At Q gradient = -3 $8x - 1 = -3$ $x = -\frac{1}{4}$