

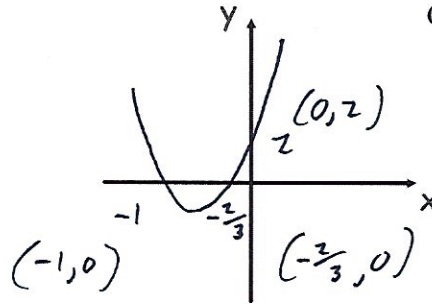
11th April



Corbettmaths

Sketch the graph of  
 $y = 3x^2 + 5x + 2$   $(3x+2)(x+1)$

clearly show the coordinates of any points of intersection with the axes.



Find where the matrix  $\begin{pmatrix} 5 & 4 \\ 2 & -5 \end{pmatrix}$  maps  
 the point  $(3, -2)$

$$\begin{pmatrix} 5 & 4 \\ 2 & -5 \end{pmatrix} \begin{pmatrix} 3 \\ -2 \end{pmatrix} = \begin{pmatrix} 7 \\ 16 \end{pmatrix}$$

$$(7, 16)$$

Solve

$$y^{-\frac{1}{3}} + 1 = \frac{3}{5}$$

$$y^{-\frac{1}{3}} = -\frac{2}{5}$$

$$y^{\frac{1}{3}} = -\frac{5}{2}$$

$$y = -\frac{125}{8}$$

Work out the values of  $x$  between  
 $0^\circ$  and  $360^\circ$  for which

$$\cos^2 x - 3\sin^2 x = 0$$

$$\cos^2 x - 3(1 - \cos^2 x) = 0$$

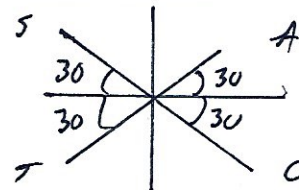
$$\cos^2 x - 3 + 3\cos^2 x = 0$$

$$4\cos^2 x = 3$$

$$\cos^2 x = \frac{3}{4}$$

$$\cos x = \pm \frac{\sqrt{3}}{2}$$

$$\cos^{-1} \frac{\sqrt{3}}{2} = 30^\circ$$



$$x = 30^\circ, 150^\circ, 210^\circ, 330^\circ$$