

1st March



Corbettmaths

Solve the simultaneous equations

$$2y = 4x - 18 \quad \times 3$$

$$2x = 15 + 3y \quad \times 2$$

$$6y = 12x - 54$$

$$4x = 30 + 6y$$

$$4x - 30 = 6y$$

$$\therefore 12x - 54 = 4x - 30$$

$$8x = 24$$

$$x = 3$$

$$6y = 36 - 54$$

$$6y = -18$$

$$y = -3$$

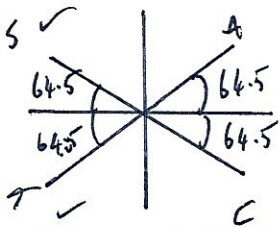
$$x = 3$$

$$y = -3$$

Solve  $\cos\theta = -0.43$   
for  $0^\circ \leq \theta \leq 360^\circ$ 

$$\cos^{-1} 0.43$$

$$= 64.5^\circ$$



$$115.5^\circ, 244.5^\circ$$

$$\mathbf{A} = \begin{pmatrix} -2 & 4 \\ 1 & 0 \end{pmatrix} \quad \mathbf{B} = \begin{pmatrix} 0 & 1 \\ p & q \end{pmatrix}$$

Given  $\mathbf{AB} = \mathbf{I}$ Find  $p$  and  $q$ 

$$\begin{pmatrix} -2 & 4 \\ 1 & 0 \end{pmatrix} \begin{pmatrix} 0 & 1 \\ p & q \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$4p = 1$$

$$p = \frac{1}{4}$$

$$-2 + 4q = 0$$

$$4q = 2$$

$$q = \frac{1}{2}$$