

Solving Systems

Solve:

$$\begin{array}{r}
 1) (2x + 3y = 6) \times 4 \\
 (5x + 4y = 1) \times -3 \\
 \hline
 8x + 12y = 24 \\
 + -15x - 12y = -3 \\
 \hline
 -7x = 21 \\
 x = -3
 \end{array}$$

now find y : $2(-3) + 3y = 6$

$$\begin{array}{r}
 -6 + 3y = 6 \\
 3y = 12 \\
 y = 4
 \end{array}$$

$P(-3, 4)$

2) $3x + 8y = 1$

$x = 4y - 3$

$$\begin{array}{r}
 3(4y - 3) + 8y = 1 \\
 12y - 9 + 8y = 1 \\
 20y = 10 \\
 y = \frac{1}{2}
 \end{array}$$

now solve for x :

$$\begin{array}{r}
 x = 4\left(\frac{1}{2}\right) - 3 \\
 = -1
 \end{array}$$

$S\left(-1, \frac{1}{2}\right)$

3) $y = 4x + 8$

$y = 3x + 5$

$$\begin{array}{r}
 4x + 8 = 3x + 5 \\
 x = -3
 \end{array}$$

now find y :

$$\begin{array}{r}
 y = 4(-3) + 8 \\
 = -4
 \end{array}$$

$\therefore P(-3, -4)$