

# Warm Up Questions

1.  $x = 3 - 2y$   
 $4x + 9y = 16$

2.  $y = -6 - 2x$   
 $4x + 3y = -2$

3.  $-7x + 7y = 21$   
 $2y = 16 + 4x$

$$1. \quad x = 3 - 2y \quad \text{①}$$

$$4x + 9y = 16 \quad \text{②}$$

Sub in ②

$$4x + 9y = 16$$

(x, y)

(-5, 4)

$$4(3 - 2y) + 9y = 16$$

$$12 - 8y + 9y = 16$$

$$12 + y = 16 - 12$$

$$y = 4$$

Sub in y=4

$$x = 3 - 2y$$

$$x = 3 - 2(4)$$

$$x = 3 - 8$$

$$x = -5$$

$$2. \quad y = -6 - 2x \quad \text{①}$$

$$4x + 3y = -2 \quad \text{②}$$

Sub in ②

$$4x + 3y = -2$$

$$4x + 3(-6 - 2x) = -2$$

$$\begin{aligned} 4x - 18 - 6x &= -2 \\ -2x - 18 &= -2 + 18 \\ -2x &= 16 \\ \frac{-2x}{-2} &= \frac{16}{-2} \end{aligned}$$

$$\text{Sub } x = -8 \quad x = -8$$

$$\begin{aligned} y &= -6 - 2x \\ y &= -6 - 2(-8) \\ y &= -6 + 16 \\ y &= 10 \end{aligned}$$

$$\begin{array}{l} x, y \\ (-8, 10) \end{array}$$

$$3. \begin{array}{l} -7x + 7y = 21 \quad \textcircled{1} \\ 2y = 16 + 4x \quad \textcircled{2} \end{array}$$


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Rearrange  $\textcircled{2}$ 

$$\frac{2y}{2} = \frac{16}{2} + \frac{4x}{2}$$

$$y = 8 + 2x$$


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Sub in  $\textcircled{1}$ 

$$-7x + 7y = 21$$

$$-7x + 7(8 + 2x) = 21$$

$$-7x + 56 + 14x = 21$$

$$7x + 56 = 21 - 56$$

$$\frac{7x}{7} = \frac{-35}{7}$$

$$x = -5$$


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Sub in  $x = -5$ 

$$\begin{array}{l} y = 8 + 2x \\ y = 8 + 2(-5) \\ y = 8 - 10 \\ y = -2 \end{array}$$

$$\begin{array}{c} x, y \\ (-5, -2) \end{array}$$