

**Warm up:**

Solve using any method.

$$y = 6x - 11$$

$$-2x - 3y = -7$$

$$-2x - 3(6x - 11) = -7$$

$$\underline{-2x} \quad \underline{-18x} + 33 = -7$$

$$-20x + 33 = -7$$

$$\quad \quad \quad -33 \quad -33$$

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$$-20x = -40$$

$$\underline{-20} \quad \underline{-20}$$

$$x = 2$$

$$6(2) - 11$$

$$12 - 11 = 1$$

$$x = 2$$

$$y = 1$$

## HW Solutions

$$\textcircled{6} \quad 9x + 7y = 4$$

$$\rightarrow (2x - y) = (6) \rightarrow$$

$$\begin{array}{r} 9x + 7y = 4 \\ + (14x - 7y = 42) \\ \hline 23x = 46 \\ \hline 23 \quad 23 \\ \hline x = 2 \end{array}$$

$$\begin{array}{r} 2(2) - y = 6 \\ 4 - y = 6 \\ -4 \quad -4 \\ \hline -y = 2 \\ \hline y = -2 \end{array}$$

$$\textcircled{9} \begin{aligned} 5(3x + 4) &= (-5)5 \\ 3(5x + 6) &= (-7)3 \end{aligned}$$

$$\begin{aligned} &\cancel{15x} + 20y = -25 \\ - &\cancel{(15x + 18y = -21)} \end{aligned} \quad \begin{aligned} &-25 - (-21) \\ &-25 + 21 \end{aligned}$$

$$\begin{aligned} &2y = -4 \\ &y = -2 \end{aligned}$$

$3x + 4(-2) = -5$   
 $3x - 8 = -5$   
 $3x = -5 + 8$   
 $3x = 3$   
 $x = 1$

$$\begin{aligned} x &= 1 \\ y &= -2 \end{aligned}$$

$$Q \quad 3x + 2y = 2$$

$$3(x - 4y) = (3) \cdot 3$$

~~$$3x + 2y = 2$$

$$-(3x - 12y = 9)$$~~

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$$\frac{14y}{14} = \frac{-7}{14}$$


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$$y = -\frac{1}{2}$$

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

$$x + 2 = 3$$

$$\frac{-2}{-2} \quad \frac{-2}{-2}$$


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$$x = 1$$

$$x = 1$$

$$y = -\frac{1}{2}$$

$$\begin{array}{r} \textcircled{2} \quad 2x - 3y = -3 \\ 2(x + y) = (6)2 \\ \hline 2x - 3y = -3 \\ - (2x + 2y = 12) \\ \hline -5y = -15 \\ \hline y = 3 \end{array}$$

$$\begin{array}{r} x + 3 = 6 \\ -3 \quad -3 \\ \hline x = 3 \end{array}$$

$$\begin{array}{l} x = 3 \\ y = 3 \end{array}$$



$$\begin{array}{r} -4x - 2y = -12 \\ + (4x + 8y = -24) \end{array}$$

$$-4x - 2(-6) = -12$$

$$-4x + 12 = -12$$

$$\begin{array}{r} -4x + 12 = -12 \\ \underline{-12 \quad -12} \\ -4x = -24 \end{array}$$

$$\begin{array}{r} -4x = -24 \\ \underline{-4 \quad -4} \\ x = 6 \end{array}$$

$$\begin{array}{l} y = -6 \\ x = 6 \end{array}$$

$$2x - 3y = -1$$

$$y = x - 1$$

$$2x - 3(x - 1) = -1$$

$$2x - 3x + 3 = -1$$

$$-x + 3 = -1$$

$$-3 \quad -3$$

$$\hline -x = -4$$

$$\hline \quad \quad -1 \quad -1$$

$$\hline x = 4$$

$$\begin{array}{l} x = 4 \\ y = 3 \end{array}$$



$$\begin{array}{r} 8x + y = -16 \\ -(-3x + y = -5) \\ \hline 11x = -11 \\ \hline x = -1 \end{array}$$

$x = -1$

$$\begin{array}{r} -3(-1) + y = -5 \\ 3 + y = -5 \\ \hline y = -8 \end{array}$$

$x = -1$   
 $y = -8$

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

$$3(-x + y) = (3)3$$

$$\begin{array}{r} \cancel{-3x + 3y = 4} \\ - (\cancel{-3x + 3y = 9}) \end{array}$$

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$$0 = -5$$

no solution

$$5x + y = 9$$

$$10x - 7y = -18$$

$$-3x - 3y = 3$$

$$y = -5x - 17$$

$$-4x + 9y = 9$$

$$x - 3y = -6$$

$$-7x + y = -19$$

$$-2x + 3y = -19$$

$$-7x - 2y = -13$$

$$x - 2y = 11$$

$$-3x + 7y = -16$$

$$-9x + 5y = 16$$



$$y = -3x + 5$$

$$5x - 4y = -3$$

$$-3x + 3y = 3$$

$$-5x + y = 13$$

$$5x + 4y = -14$$

$$3x + 6y = 6$$

$$3x - 2y = 2$$

$$5x - 5y = 10$$

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