

# Warm Up Questions



1)  $-x - y = 3$   
 $4x - y = 18$

2)  $12x + 10y = 28$   
 $-3x + 4y = -20$

3)  $6x + 7y = -10$   
 $9x + 5y = 7$

$$\begin{array}{l} 1) -x - y = 3 \quad \textcircled{1} \\ -4x + y = -18 \quad \textcircled{2} \end{array}$$

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① - ②

$$\begin{array}{l} -5x = -15 \\ \underline{\underline{5}} \quad \underline{\underline{5}} \end{array}$$

$$x = 3$$

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Sub in ①

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$$\textcircled{-3} - y = 3 + 3$$

$$-y = 6$$

$$y = -6$$

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$$\begin{array}{l} x, y \\ (3, -6) \end{array}$$

$$\begin{array}{r}
 2) \quad 12x + 10y = 28 \quad \textcircled{1} \\
 \underline{-3x + 4y = -20 \quad \textcircled{2}} \\
 \hline
 \hline
 \end{array}$$

$$\begin{array}{r}
 \textcircled{2} \times 4 \quad -12x + 16y = -80 \quad \textcircled{3} \\
 \underline{12x + 10y = 28 \quad \textcircled{1}} \\
 \hline
 \hline
 \end{array}$$

$$\textcircled{3} + \textcircled{1}$$

$$\frac{26y}{26} = \frac{-52}{26}$$

$$y = -2$$

Sub in  $\textcircled{1}$

$$\begin{array}{l}
 12x + 10(-2) = 28 \\
 12x - 20 = 28 + 20
 \end{array}$$

$$\begin{array}{l}
 12x = 48 \\
 \frac{12x}{12} = \frac{48}{12} \\
 x = 4
 \end{array}$$

$$\begin{array}{l}
 x, y \\
 (4, -2)
 \end{array}$$

$$\begin{array}{l} 3) \quad 6x + 7y = -10 \quad \textcircled{1} \\ \quad \quad 9x + 5y = 7 \quad \quad \textcircled{2} \end{array}$$

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$$\textcircled{1} \times 3 \quad 18x + 21y = -30 \quad \textcircled{3}$$

$$\textcircled{2} \times 2 \quad -18x + 10y = 14 \quad \textcircled{4}$$

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$$\textcircled{3} - \textcircled{4}$$

$$\frac{11y}{11} = \frac{-44}{11}$$

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$$y = -4$$

Sub in  $\textcircled{1}$

$$6x + 7(-4) = -10$$

$$6x - 28 = -10 + 28$$

$$\frac{6x}{6} = \frac{18}{6}$$

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$$x = 3$$

$$\begin{array}{l} x, y \\ (3, -4) \end{array}$$