

Solution:

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Elimination by Multiplying Both Equations by a Constant and then Adding

Ex 5. $7(5x - 4y = -1)$
 $4(8x + 7y = -15)$

$$\begin{array}{r} 35x - 28y = -7 \\ 32x + 28y = -60 \\ \hline \end{array}$$

$$\frac{67x}{67} = \frac{-67}{67}$$

$$x = -1$$

$$5(-1) - 4y = -1$$

$$-5 - 4y = -1$$

$$-4y = 4$$

$$y = -1$$

Solution: $(-1, -1)$

Ex 7. $2(-9x + 5y = 26)$ $-18x + 10y = 52$
 $-5(2x + 2y = 16)$ $-10x - 10y = -80$

$$\begin{array}{r} -18x + 10y = 52 \\ -10x - 10y = -80 \\ \hline \end{array}$$

$$x = 1$$

$$2(1) + 2y = 16$$

$$2 + 2y = 16$$

$$2y = 14$$

$$y = 7$$

Solution: $(1, 7)$

Ex 6. $-5(-6x + 12y = -6)$ $30x - 60y = 30$
 $6(-5x + 10y = -5)$ $-30x + 60y = -30$

$$\begin{array}{r} 30x - 60y = 30 \\ -30x + 60y = -30 \\ \hline \end{array}$$

$$0 = 0$$

Solution: Infinite Solutions

Ex 8. $5(2x + 2y = 10)$ $10x + 10y = 50$
 $-2(3x + 5y = 13)$ $-6x - 10y = -26$

$$4x = 24$$

$$x = 6$$

$$2(6) + 2y = 10$$

$$12 + 2y = 10$$

$$2y = -2$$

$$y = -1$$

Solution: $(6, -1)$