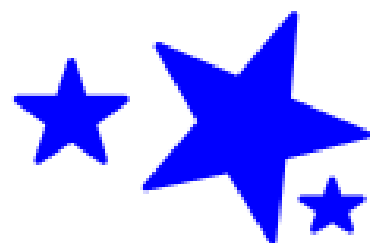


7 - 4

**Elimination Using
Multiplication**

Ex: $3x + 4y = 6$
 $2(5x + 2y = -4)$



$$\begin{array}{r} 3x + 4y = 6 \\ -10x + 4y = -8 \\ \hline -7x = 14 \\ \hline x = -2 \end{array}$$

$$\begin{array}{r} 3(-2) + 4y = 6 \\ -6 + 4y = 6 \\ +6 \qquad +6 \end{array}$$

$$\frac{4y}{4} = \frac{12}{4}$$

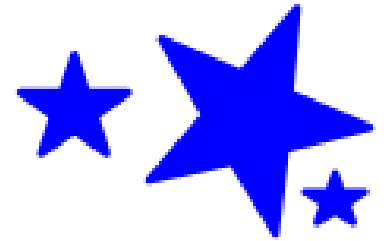
$$x = -2$$

$$\boxed{(-2, 3)}$$

$$y = 3$$

Ex:

$$\begin{cases} 4x - 3y = 12 \\ x + 2y = 14 \end{cases}$$



$$\begin{array}{r} \cancel{4x} - 3y = 12 \\ - \cancel{4x} + 8y = 56 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{11y} = \frac{-44}{-11} \end{array}$$

$$y = 4$$

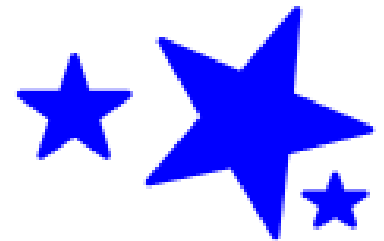
$$x + 2(4) = 14$$

$$\begin{array}{r} x + \cancel{8} = 14 \\ - 8 -8 \end{array}$$

$$x = 6$$

$$\boxed{(6, 4)}$$

Ex:
$$\begin{cases} 2(3x + 4y = -25) \\ 3(2x - 3y = 6) \end{cases}$$



$$\begin{array}{r} 6x + 8y = -50 \\ -6x - 9y = 18 \\ \hline \end{array}$$

$$\frac{17y}{17} = \frac{-68}{17}$$

$$y = -4 \quad \boxed{(-3, -4)}$$

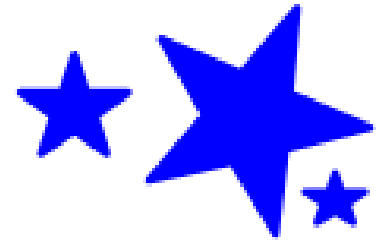
$$3x + 4(-4) = -25$$

$$3x - 16 = -25$$
$$\begin{array}{r} +16 \\ +16 \end{array}$$

$$3x = -9$$
$$\frac{3x}{3} = \frac{-9}{3}$$

$$x = -3$$

Ex:
$$\begin{cases} 3(4x + 3y = 8) \\ 4(3x - 5y = -23) \end{cases}$$



$$\begin{array}{r} 12x + 9y = 24 \\ - 12x - 20y = -92 \\ \hline \end{array}$$

$$\frac{29y}{29} = \frac{116}{29}$$

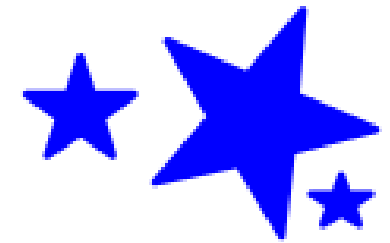
$$y = 4$$

$$\boxed{(-1, 4)}$$

$$\begin{array}{r} 4x + 3(4) = 8 \\ 4x + 12 = 8 \\ - 12 \quad -12 \end{array}$$

$$\frac{4x}{4} = \frac{-4}{4}$$

$$x = -1$$



Homework:

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