

* $3x + 2y = 12$

How many solutions can we find?

Choose a value for x or y
then find the missing coordinate
to complete that ordered pair.

x	y
-2	9
0	6
4	0

→ if $x = -2$ we need to find y

$$3(-2) + 2y = 12$$

$$\begin{array}{r} -6 + 2y = 12 \\ +6 \qquad +6 \\ \hline \end{array}$$

$$\frac{2y}{2} = \frac{18}{2}$$

$$y = 9 \text{ when } x = -2$$

$$\begin{array}{c} \boxed{(-2, 9)} \\ x \quad y \end{array}$$

→ if $x = 0$

$$3(0) + 2y = 12$$

$$0 + \frac{2y}{2} = \frac{12}{2}$$

$$y = 6 \rightarrow (0, 6)$$

→ if $y = 0$

$$3x + 2(0) = 12$$

$$\frac{3x}{3} + 0 = \frac{12}{3}$$

$$x = 4 \rightarrow (4, 0)$$

there are an infinite number of solutions