

Use your calculator to solve the system.

1. $4x = y - 1$
 $6x - 2y = -3$ Solution: (1/2, 3)

$$\begin{array}{r} 4x = y - 1 \\ +1 \quad +1 \\ \hline y = 4x + 1 \end{array}$$

$$\begin{array}{r} 6x - 2y = -3 \\ -6x \quad -6x \\ \hline -2y = -6x - 3 \\ -2 \quad -2 \quad -2 \\ \hline y = 3x + \frac{3}{2} \end{array}$$

2. $y = 1.2x - 4$
 $2.2x + 5 = y$ Solution: (-9, -14.8)

$$y = 2.2x + 5$$

3. $x + 2y = 5$
 $3x + 2y = 17$

Solution: (6, -1/2)

$$\begin{array}{r} x + 2y = 5 \\ -x \quad -x \\ \hline 2y = -x + 5 \\ \frac{2y}{2} = \frac{-x}{2} + \frac{5}{2} \\ y = -\frac{1}{2}x + \frac{5}{2} \end{array}$$

$$\begin{array}{r} 3x + 2y = 17 \\ -3x \quad -3x \\ \hline 2y = -3x + 17 \\ \frac{2y}{2} = \frac{-3x}{2} + \frac{17}{2} \\ y = -\frac{3}{2}x + \frac{17}{2} \end{array}$$

4. $3x - 2y = -1$
 $3x - 4y = 9$

Solution: (-3.7, -5.5)

$$\begin{array}{r} 3x - 2y = -1 \\ -3x \quad -3x \\ \hline -2y = -3x - 1 \\ \frac{-2y}{-2} = \frac{-3x}{-2} - \frac{1}{-2} \\ y = \frac{3}{2}x + \frac{1}{2} \end{array}$$

$$\begin{array}{r} 3x - 4y = 9 \\ -3x \quad -3x \\ \hline -4y = -3x + 9 \\ \frac{-4y}{-4} = \frac{-3x}{-4} + \frac{9}{-4} \\ y = \frac{3}{4}x - \frac{9}{4} \end{array}$$

Write a system of equations and solve by graphing. You may use your graphing calculator.

5. The school band sells carnations on Valentine's Day for \$2 each. They buy the carnations from a florist for \$0.50 each, plus a \$16 delivery charge. How many carnations would the school band need to sell in order to break even?

Let $x =$ # carnations

Equation 1: $y = 2x$

Let $y =$ cost

Equation 2: $y = .50x + 16$

Solution as an ordered pair: $(10\frac{2}{3}, 21\frac{1}{3})$

Sentence describing the solution (Give a reasonable solution for the situation):

They need to sell 11 carnations

6. A tree that is 2 feet tall is growing at a rate of 1 foot per year. A 6-foot tall tree is growing at a rate of 0.5 foot per year. In how many years will the trees be the same height?

Let $x =$ # of years

Equation 1: $y = 1x + 2$

Let $y =$ height

Equation 2: $y = \frac{1}{2}x + 6$

Solution as an ordered pair: $(8, 10)$

Sentence describing the solution (Give a reasonable solution for the situation):

In 8 years, both trees will be 10ft tall