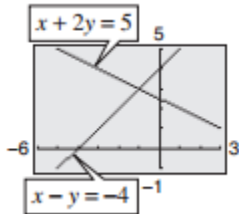


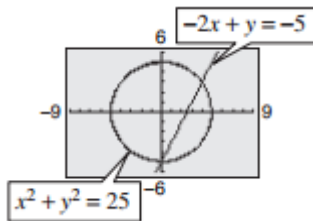
Precalculus Unit 10 – 10.1 Homework Worksheet

Solving Systems of Equations

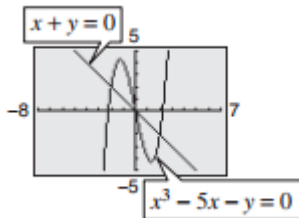
1.
$$\begin{cases} x - y = -4 \\ x + 2y = 5 \end{cases}$$



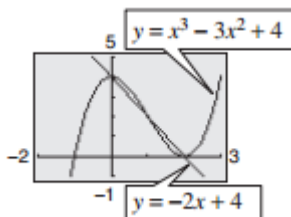
2.
$$\begin{cases} -2x + y = -5 \\ x^2 + y^2 = 25 \end{cases}$$



3.
$$\begin{cases} x + y = 0 \\ x^3 - 5x - y = 0 \end{cases}$$



4.
$$\begin{cases} y = x^3 - 3x^2 + 4 \\ y = -2x + 4 \end{cases}$$



5.
$$\begin{cases} 6x - 3y - 4 = 0 \\ x + 2y - 4 = 0 \end{cases}$$

6.
$$\begin{cases} \frac{1}{3}x + \frac{1}{2}y = 8 \\ x + y = 20 \end{cases}$$

7.
$$\begin{cases} -\frac{5}{3}x + y = 5 \\ -5x + 3y = 6 \end{cases}$$

8.
$$\begin{cases} y = -x \\ y = x^3 + 3x^2 + 2x \end{cases}$$

9. Solve the following system by finding the point(s) of intersection using your calculator.

$$\begin{cases} 2 \ln x + y = 4 \\ e^x - y = 0 \end{cases}$$

10. A small fast food restaurant invests \$5000 to produce a new food item that will sell for \$3.49. Each item can be produced for \$2.16.

- a. Write the cost and revenue functions for x items produced and sold.

Cost:

Revenue:

- b. Find the number of items that must be sold to break-even. (Where cost and revenue are the same...)

