

## 7.3 Substitution and Elimination

Solve each system algebraically.

$$\begin{aligned} 1) \quad y &= -2x^2 - 5 \\ y &= -5 \end{aligned}$$

$$\begin{aligned} 2) \quad y &= 4 \\ x^2 + y^2 &= 20 \end{aligned}$$

$$\begin{aligned} 3) \quad x^2 + y^2 &= 13 \\ y &= x + 1 \end{aligned}$$

$$\begin{aligned} 4) \quad y &= -x^2 + 4x + 6 \\ y &= -2x + 11 \end{aligned}$$

$$\begin{aligned} 5) \quad y &= x^2 - 6x + 9 \\ y &= -x + 5 \end{aligned}$$

$$\begin{aligned} 6) \quad y &= x^2 - 2x - 6 \\ y &= 4x + 10 \end{aligned}$$

7)  $y = 5x - 8$   
 $y = x^2 + 3x - 9$

8)  $x^2 + y^2 = 10$   
 $2x + y = 1$

9) The sum of two squares is 64. The difference of two squares is 12. Find the possible values of each number.

10) You need to build a fence around a local garden. The fence needs to enclose 96 square yards, and you only have 40 yards of fencing to complete the project. What should the length and width be of the fenced off garden?