

8.6 Practice Problems

Solve the following systems of nonlinear equations by substitution or elimination or graphically.

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

$$2. \begin{cases} x^2 + y^2 = 16 \\ y = x^2 - 4 \end{cases}$$

$$3. \begin{cases} 3x^2 + y^2 = 12 \\ x^2 + y^2 = 4 \end{cases}$$

$$4. \begin{cases} xy = 25 \\ y = x \end{cases}$$

$$5. \begin{cases} 3x^2 - 2y^2 = -5 \\ 2x^2 - y^2 = -2 \end{cases}$$

$$6. \begin{cases} (x+3)^2 + (y+4)^2 = 4 \\ y = x - 3 \end{cases}$$

$$7. \begin{cases} y = x^2 - 6x + 5 \\ 2x + y = 1 \end{cases}$$

$$8. \begin{cases} 2x^2 + y^2 = 17 \\ x^2 + y^2 = 13 \end{cases}$$

$$9. \begin{cases} y = x^2 \\ x^2 + y^2 = 6 \end{cases}$$

$$10. \begin{cases} y = x \\ x^2 + y^2 = 8 \end{cases}$$