

Systems of Quadratic Equations

State if the point given is a solution to the system of equations.

1) $x^2 + y^2 - 7x + 3y - 28 = 0$
 $-2x + y - 4 = 0$
 Point: $(3, -5)$

2) $-y^2 + x - 12y - 33 = 0$
 $-y^2 + x - 24y - 81 = 0$
 Point: $(-1, -4)$

3) $-x^2 + 2y^2 - 2x + 8y + 5 = 0$
 $-x^2 + 26y^2 - 2x + 104y + 77 = 0$
 Point: $(-1, -3)$

4) $-2x^2 + y^2 + 2x + 17y - 49 = 0$
 $x + y = 2$
 Point: $(-1, 7)$

Solve each system of equations.

5) $3x^2 + 2y^2 - 54y - 143 = 0$
 $x - 3y - 3 = 0$

6) $2x^2 + 3y^2 + 3x - 12y - 42 = 0$
 $x + 3y = 0$

7) $x^2 + 2y^2 - 11x - 3y + 31 = 0$
 $-x + y + 4 = 0$

8) $4y^2 + 34x + y - 52 = 0$
 $2x + y - 4 = 0$

9) $x^2 + y^2 + x + 3y + 2 = 0$
 $x - y = 0$

10) $-2x^2 + y^2 + 24y + 76 = 0$
 $x + 3y + 2 = 0$

11) $5x^2 + 20x + 9y - 7 = 0$
 $5x^2 + 10y^2 + 20x - y - 67 = 0$

12) $-x^2 - 3x + y = 0$
 $-12x^2 - 3x + y = 0$

13) $3x^2 - 12x - 2y - 2 = 0$
 $3x^2 + 3y^2 - 12x + 22y + 19 = 0$

14) $7y^2 + 25x + 42y - 137 = 0$
 $24x^2 + 7y^2 - 191x + 42y + 55 = 0$

Systems of Quadratic Equations

State if the point given is a solution to the system of equations.

$$\begin{aligned} 1) \quad & x^2 + y^2 - 7x + 3y - 28 = 0 \\ & -2x + y - 4 = 0 \\ & \text{Point: } (3, -5) \end{aligned}$$

No

$$\begin{aligned} 2) \quad & -y^2 + x - 12y - 33 = 0 \\ & -y^2 + x - 24y - 81 = 0 \\ & \text{Point: } (-1, -4) \end{aligned}$$

No

$$\begin{aligned} 3) \quad & -x^2 + 2y^2 - 2x + 8y + 5 = 0 \\ & -x^2 + 26y^2 - 2x + 104y + 77 = 0 \\ & \text{Point: } (-1, -3) \end{aligned}$$

Yes

$$\begin{aligned} 4) \quad & -2x^2 + y^2 + 2x + 17y - 49 = 0 \\ & x + y = 2 \\ & \text{Point: } (-1, 7) \end{aligned}$$

No

Solve each system of equations.

$$\begin{aligned} 5) \quad & 3x^2 + 2y^2 - 54y - 143 = 0 \\ & x - 3y - 3 = 0 \end{aligned}$$

$(9, 2), (-3, -2)$

$$\begin{aligned} 6) \quad & 2x^2 + 3y^2 + 3x - 12y - 42 = 0 \\ & x + 3y = 0 \end{aligned}$$

$(-6, 2), (3, -1)$

$$\begin{aligned} 7) \quad & x^2 + 2y^2 - 11x - 3y + 31 = 0 \\ & -x + y + 4 = 0 \end{aligned}$$

$(5, 1)$

$$\begin{aligned} 8) \quad & 4y^2 + 34x + y - 52 = 0 \\ & 2x + y - 4 = 0 \end{aligned}$$

$(1, 2)$

$$\begin{aligned} 9) \quad & x^2 + y^2 + x + 3y + 2 = 0 \\ & x - y = 0 \end{aligned}$$

$(-1, -1)$

$$\begin{aligned} 10) \quad & -2x^2 + y^2 + 24y + 76 = 0 \\ & x + 3y + 2 = 0 \end{aligned}$$

$(4, -2), (-8, 2)$

$$\begin{aligned} 11) \quad & 5x^2 + 20x + 9y - 7 = 0 \\ & 5x^2 + 10y^2 + 20x - y - 67 = 0 \end{aligned}$$

$(-2, 3), (1, -2), (-5, -2)$

$$\begin{aligned} 12) \quad & -x^2 - 3x + y = 0 \\ & -12x^2 - 3x + y = 0 \end{aligned}$$

$(0, 0)$

$$\begin{aligned} 13) \quad & 3x^2 - 12x - 2y - 2 = 0 \\ & 3x^2 + 3y^2 - 12x + 22y + 19 = 0 \end{aligned}$$

$(2, -7), (4, -1), (0, -1)$

$$\begin{aligned} 14) \quad & 7y^2 + 25x + 42y - 137 = 0 \\ & 24x^2 + 7y^2 - 191x + 42y + 55 = 0 \end{aligned}$$

$(8, -3), (1, 2), (1, -8)$