

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) $y^2 + x + 6y + 8 = 0$
 $y^2 + x - 16y - 14 = 0$

14) $-2x^2 + 2y^2 - x + 12y - 14 = 0$
 $15x^2 + 2y^2 + 101x + 12y - 14 = 0$

15) $3x^2 - 12x - 2y - 2 = 0$
 $3x^2 + 3y^2 - 12x + 22y + 19 = 0$

16) $7y^2 + 25x + 42y - 137 = 0$
 $24x^2 + 7y^2 - 191x + 42y + 55 = 0$

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No

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Solve each system of equations.

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

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

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

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

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

(5, 1)

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

(1, 2)

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

(-1, -1)

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

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

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

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

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

(0, 0)

13) $y^2 + x + 6y + 8 = 0$
 $y^2 + x - 16y - 14 = 0$

(-3, -1)

14) $-2x^2 + 2y^2 - x + 12y - 14 = 0$
 $15x^2 + 2y^2 + 101x + 12y - 14 = 0$

(0, 1), (0, -7), (-6, 4), (-6, -10)

15) $3x^2 - 12x - 2y - 2 = 0$
 $3x^2 + 3y^2 - 12x + 22y + 19 = 0$

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

16) $7y^2 + 25x + 42y - 137 = 0$
 $24x^2 + 7y^2 - 191x + 42y + 55 = 0$

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