Systems of Quadratic Equations

Date_____ Period____

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

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Point: $(3, -5)$

No

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3) $-x^2 + 2y^2 - 2x + 8y + 5 = 0$
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Yes

4) $-2x^2 + y^2 + 2x + 17y - 49 = 0$
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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) $3x^2 - 12x - 2y - 2 = 0$
$3x^2 + 3y^2 - 12x + 22y + 19 = 0$

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

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

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