Systems of nonlinear equations

Name_____ ID: 1

Date_____

Solve each system of equations for x only.

1) $x^2 - y^2 - 8x + 10y - 18 = 0$
$9x^2 + y^2 + 28x - 10y + 28 = 0$

2) $2x^2 + y^2 + 11x - 8y - 60 = 0$
$2x^2 + y^2 + 33x - 8y - 148 = 0$

3) $-2x^2 + 2y^2 - 3x + 16y + 9 = 0$
$23x^2 - 2y^2 + 3x - 16y - 198 = 0$

4) $x^2 - 12x + y - 6 = 0$
$22x^2 + 30x + y + 15 = 0$

5) $-x^2 + 6x + y - 4 = 0$
$20x^2 - 120x + y - 4 = 0$

6) $x^2 + y^2 - 8x - 4y - 16 = 0$
$x^2 + y^2 - 4y - 96 = 0$

Solve each system of equations.

7) $2x^2 + y^2 + 8x - 16y + 40 = 0$
$2x^2 + y^2 - 7x - 16y - 50 = 0$

8) $-3x^2 + 3y^2 + 30x + 37y + 35 = 0$
$3x^2 + 19y^2 - 30x + 117y + 185 = 0$

9) $2y^2 - x + 32y + 119 = 0$
$x^2 - 2y^2 + 9x - 32y - 112 = 0$

10) $-2x^2 + 4y^2 + 4x + 35y + 54 = 0$
$2x^2 + 2y^2 - 4x + 25y + 42 = 0$

11) $x^2 - 8x - 3y + 4 = 0$
$-x^2 + 3y^2 + 8x + 18y + 8 = 0$

12) $x^2 + y^2 + 8x - y - 20 = 0$
$x^2 - 23y^2 + 8x + 47y - 44 = 0$

Answers to Systems of nonlinear equations (ID: 1)

1) $\{-1\}$
2) $\{4\}$
3) $\{-3, 3\}$
4) $\{-1\}$
5) $\{6, 0\}$
6) $\{10\}$
7) $(-6, 8)$
8) $(5, -5), (9, -2), (1, -2)$
9) $(-7, -7), (-7, -9), (-1, -6), (-1, -10)$
10) $(5, -8), (-3, -8), (2, -2), (0, -2)$
11) $(4, -4), (7, -1), (1, -1)$
12) $(2, 1), (-10, 1)$

