Systems of nonlinear equations

Name_____ ID: 1

© 2017 Kuta Software LLC. All rights reserved.

Date_____

Solve each system of equations for x only.

1) $2x^2 + y^2 + 10x - 16y + 16 = 0$
$2x^2 + y^2 - 13x - 16y + 85 = 0$

2) $x^2 - y^2 + 6x + 6y - 45 = 0$
$x^2 - y^2 - 7x + 6y - 175 = 0$

3) $10y^2 - 9x - 40y + 40 = 0$
$8x^2 - 10y^2 - 71x + 40y - 40 = 0$

4) $2x^2 + 18x + y - 7 = 0$
$-17x^2 - 153x + y - 7 = 0$

5) $5x^2 - 5y^2 - 44x + 20y + 48 = 0$
$8x^2 + 5y^2 - 73x - 20y + 134 = 0$

6) $x^2 + y^2 + x + 14y + 40 = 0$
$9x^2 + y^2 + 9x + 14y + 40 = 0$

Learning is fun!
www.mrtownsend.com

www.mrtownsend.com

© 2017 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 2.

Solve each system of equations.

7) $x^2 + y^2 - 3x + 10y + 27 = 0$
$4x^2 - y^2 - 7x - 10y - 22 = 0$

8) $2x^2 - y^2 + 16x + 8y - 2 = 0$
$14x^2 - y^2 + 112x + 8y + 82 = 0$

9) $y^2 - 3x - 12y + 39 = 0$
$21x^2 + y^2 - 108x - 12y + 123 = 0$

10) $-y^2 + x + 2y + 25 = 0$
$2y^2 + x - 4y - 47 = 0$

11) $x^2 - 2x + y - 16 = 0$
$-4x^2 + 38x + y - 96 = 0$

12) $-x^2 + 2y^2 + 16x - 9y - 75 = 0$
$-x^2 + 2y^2 + 16x - 31y - 97 = 0$

Learning is fun!
www.mrtownsend.com

© 2017 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 2.

Answers to Systems of nonlinear equations (ID: 1)

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

Learning is fun!
www.mrtownsend.com

© 2017 Kuta Software LLC. All rights reserved. Made with Infinite Algebra 2.