Quadratic-Quadratic systems of equations

Short Answer

What is the solution of the quadratic system of equations?

1.
$$\begin{cases} y = x^2 - 2x + 4 \\ y = -x^2 - 2x + 4 \end{cases}$$

2.
$$\begin{cases} y = x^2 + 3x + 2 \\ y = x^2 + 5x - 4 \end{cases}$$

3.
$$\begin{cases} y = x^2 + 18x + 35 \\ y = -x^2 + 2x + 5 \end{cases}$$

4.
$$\begin{cases} y = x^2 + 16x + 32 \\ y = -x^2 + 2 \end{cases}$$

Solve the system algebraically.

5.
$$\begin{cases} y = x^2 + 3x - 7 \\ x + y = -2 \end{cases}$$

Use graphing to find the solutions to the system of equations. Then solve the system algebraically. Be sure to show work for finding the vertex!!

6.
$$\begin{cases} y = -x^2 - 2x + 3 \\ x - y = 1 \end{cases}$$

Solve each quadratic equation by any method.

7. $x^2 - 12x + 32 = 0$

8. $49x^2 - 25 = 0$

9. $x^2 - 8x + 16 = 16$

Use the Quadratic Formula to solve the equation.

10. $-4x^2 - 7x = -3$

Solve the quadratic equation by completing the square.

11. $x^2 + 10x + 18 = 0$

Solve the quadratic equaion by factoring.

12. $5x^2 + 30x = -40$

13. $2x^2 + 23x + 56 = 0$

Use the discriminant to determine the number of real solutions. Show all work.

14. $x^2 + 3x + 5 = 0$

15. $2x^2 + 2 = -4x$

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Answer Section

SHORT ANSWER

1. (0, 4)
2. (3, 20)
3. (-3, -10) and (-5, -30)
4. (-3, -7) and (-5, -23)
5. ans:
6. ans:
7. 4, 8
8. $\pm\dfrac{5}{7}$
9. 0, 8
10. $-\dfrac{7}{8} \pm \dfrac{\sqrt{97}}{8}$
11. $-5 \pm \sqrt{7}$
12. $-4, -2$
13. $-8, -\dfrac{7}{2}$
14. no real solutions
15. one real solution