WORKSHEET CHAPTER 4: SOLVING QUADRATIC SYSTEMS

1-27:Find the solutions of each system of equations.

1. $x^2 + y^2 = 16$
   $x = 2$

2. $y = x^2$
   $y - 2 = x$

3. $x = y$
   $\frac{x^2}{20} + \frac{y^2}{5} = 1$

4. $x^2 - y = 4$
   $y = 3x$

5. $x^2 - y^2 = 9$
   $8y = 4x - 12$

6. $x^2 + y^2 = 25$
   $x + y = -7$

7. $(y-1)^2 = x + 4$
   $y + x = -1$

8. $\frac{x^2}{16} + \frac{y^2}{4} = 1$
   $2y + 5x = 4$

9. $y^2 = x^2 + 9$
   $y = 6$

10. $x^2 + y^2 = 100$
    $x - y = 2$

11. $x^2 + y^2 = 9$
    $x + y = 7$

12. $x^2 + 4y^2 = 4$
    $x - y = 6$

13. $x^2 - 4y^2 = 16$
    $y = 3x - 3$

14. $x^2 + 4y^2 = 25$
    $2y = 1 - x$

15. $(x-2)^2 + y^2 = 16$
    $y - x = 2$

16. $y = -x^2$
    $y = -x - 2$

17. $x^2 - 4y = 0$
    $y - 2x = -3$

18. $x^2 - 9y^2 = 36$
    $y = x$

19. $\frac{(x-3)^2}{25} + \frac{(y-4)^2}{9} = 1$
    $5y + 3x = 44$

20. $(x-3)^2 + (y+6)^2 = 36$
    $y + 3 = x$

21. $5x^2 + y^2 = 30$
    $y^2 - 16 = 9x^2$

22. $x^2 + y^2 = 5$
    $2x^2 + y = 0$

23. $2y^2 = 10 - x^2$
    $3x^2 - 9 = y^2$

24. $4x^2 + 9y^2 = 36$
    $4x^2 - 9y^2 = 36$

25. $x^2 + y^2 = 16$
    $x^2 + y^2 = 9$

26. $x^2 + y^2 = 64$
    $x^2 + 64y^2 = 64$

27. $x^2 - y^2 = 25$
    $x^2 - y^2 = 7$

27-45:Graph the solutions for each system of inequalities. Use graph paper provided.

28. $x^2 + y^2 < 9$
    $y < -x^2$

29. $\frac{x^2}{9} - \frac{y^2}{4}$
    $x^2 + y^2 < 25$

30. $x^2 + y^2 \geq 4$
    $x^2 + y^2 \leq 36$

31. $\frac{x^2}{16} - y^2 \geq 1$
    $x^2 + y^2 \geq 49$

32. $\frac{x^2}{25} - \frac{y^2}{16} \geq 1$
    $x - y \geq 2$

33. $y \geq x^2 - 4$
    $(y-3)^2 \geq x + 2$

34. $x^2 + y^2 > 16$
    $81x^2 + 9y^2 < 729$

35. $x^2 - 4y^2 < 16$
    $x > y^2$

36. $x + 3 = y$
    $x^2 + y^2 < 25$

37. $9x^2 + 4y^2 \leq 36$
    $4x^2 + 9y^2 \geq 36$

38. $x + 2y > 1$
    $x^2 + y^2 < 25$

39. $9x^2 - 4y^2 \geq 36$
    $x + y = 4$