Section 11 – 6: Systems of Nonlinear Equations Name _____

Solve each nonlinear system for the set of real numbers.

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

2. $y^2 = 4x$
$y = x + 1$

3. $x^2 - 3y = 1$
$y = x - 1$

4. $x^2 + y^2 = 6$
$y = \sqrt{x}$

5. $x^2 + y^2 = 25$
$y = 2x + 5$

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

7. $x^2 + y^2 = 25$
$4x + 3y = 0$

8. $x^2 - y^2 = 1$
$y = x + 1$

9. $\begin{aligned} x^2 + y^2 &= 2 \\ 2x + y &= 1 \end{aligned}$

10. $\begin{aligned} x^2 + y^2 &= 9 \\ y &= 2 + 3 \end{aligned}$

11. $\begin{aligned} 2x + y &= 4 \\ xy &= 2 \end{aligned}$

12. $\begin{aligned} x + y &= 10 \\ xy &= 21 \end{aligned}$

13. $\begin{aligned} 2x + y &= -4 \\ xy &= -6 \end{aligned}$

14. $\begin{aligned} x - 4y &= 3 \\ 2xy &= 5 \end{aligned}$

15. $\begin{aligned} x^2 + y^2 &= 4 \\ x^2 - y &= 2 \end{aligned}$

16. $\begin{aligned} 2x^2 - y^2 &= 6 \\ x^2 - y &= 3 \end{aligned}$

17. $\begin{aligned} x^2 - y^2 &= 5 \\ x^2 + y^2 &= 13 \end{aligned}$

18. $\begin{aligned} x^2 - y^2 &= 15 \\ x^2 + y^2 &= 17 \end{aligned}$

19. $\begin{aligned} x^2 - y^2 &= 1 \\ x^2 + y^2 &= 7 \end{aligned}$

20. $\begin{aligned} x^2 - y^2 &= 23 \\ x^2 + y^2 &= 27 \end{aligned}$

21. $\begin{aligned} x^2 - y^2 &= -31 \\ x^2 + y^2 &= 21 \end{aligned}$

22. $\begin{aligned} x^2 - y^2 &= 2 \\ x^2 + y^2 &= 8 \end{aligned}$

23. $\begin{aligned} x^2 - y^2 &= 7 \\ 2x^2 + y^2 &= 20 \end{aligned}$

24. $\begin{aligned} 5x^2 + y^2 &= 21 \\ -x^2 + y^2 &= -3 \end{aligned}$

25. $\begin{aligned} 2x^2 + 3y^2 &= 14 \\ -x^2 + y^2 &= 3 \end{aligned}$

26. $\begin{aligned} 2x^2 + y^2 &= 17 \\ x^2 + 2y^2 &= 22 \end{aligned}$

27. $\begin{aligned} 5x^2 + y^2 &= 26 \\ -x^2 + 2y^2 &= -14 \end{aligned}$

28. $\begin{aligned} 3x^2 - 2y^2 &= 7 \\ x^2 + y^2 &= 4 \end{aligned}$

29. $\begin{aligned} x^2 + 2y^2 &= 10 \\ x^2 - y^2 &= 1 \end{aligned}$

30. $\begin{aligned} 3x^2 - y^2 &= -1 \\ 2x^2 + 5y^2 &= 22 \end{aligned}$

31. $\begin{aligned} 5x^2 - 2y^2 &= 3 \\ 4x^2 + 3y^2 &= 7 \end{aligned}$

32. $\begin{aligned} x^2 + 4y^2 &= 20 \\ xy &= 4 \end{aligned}$

