Practice and Apply

Solve each inequality. Graph the solution on a number line.

12. $x^2 - 1 \geq 0$

13. $-x^2 + 5x - 6 > 0$

14. $x^2 - 8x + 12 \leq 0$

15. $x^2 - 4x - 5 < 0$

16. $x^2 - 7x + 10 \leq 0$

17. $50 - 15x > -x^2$

18. $x^2 \leq \frac{3}{4} + x$

19. $x^2 - x - 12 \leq 0$

20. $-x^2 + \frac{4}{3}x - \frac{5}{9} > 0$

21. $x^2 - 4x - 12 > 0$

22. $x^2 - 2x - 99 > 0$

23. $x^2 + x - 6 \leq 0$

24. $-x^2 - x + 20 < 0$

25. $x^2 \leq 7x - 6$

26. $x^2 + 35 > -12x$

27. $10 - x^2 \geq 9x$

28. $x^2 + 10x + 25 > 0$

29. $x^2 + 3x - 18 > 0$

30. $x^2 - 2 > x$

31. $x^2 + 6x \geq 7$

32. $15 - 8x \leq -x^2$

33. $-x^2 + 3x + 6 < 0$

34. $4x - 1 > 8 - x^2$

35. $x^2 + 5x - 7 < 4x$

Graph each inequality.

40. $y \leq (x-2)^2 + 2$

41. $y \geq (x+2)^2$

42. $y < (x-5)^2 + 1$

43. $y > 2(x+3)^2 - 5$

44. $y \leq \left(x - \frac{1}{2}\right)^2 + 1$

45. $y \geq (x+1)^2 + 2$

46. $y \leq x^2 + 2x + 1$

47. $y < x^2 - 3x + 2$

48. $y \geq 2x^2 + 5x + 1$

49. $y > x^2 + 4x + 2$

50. $y - 3 \leq x^2 - 6x$

51. $y - 1 < x^2 - 4x$

52. $y \leq (x-\pi)^2 + 1$

53. $y \leq -\left(x - \frac{5}{7}\right)^2 + 2$

54. $y + 3 < (x-1)^2$

55. $y > x^2 + 12x + 35$

56. $x + y > x^2 - 6$

57. $y - 2x \leq x^2 - 8$