Practice 9-4

Solving Quadratic Equations

Solve each equation by graphing the related function. If the equation has
no solution, write *no solution*.

1. $x^2 = 16$

2. $x^2 - 144 = 0$

3. $3x^2 - 27 = 0$

4. $x^2 + 16 = 0$

5. $x^2 = 25$

6. $x^2 = 49$

Solve each equation by finding square roots. If the equation has no solution,
write *no solution*. If necessary, round to the nearest tenth.

7. $x^2 + 8 = -10$

8. $3x^2 = 300$

9. $2x^2 - 6 = 26$

10. $x^2 = 80$

11. $81x^2 - 10 = 15$

12. $2x^2 = 90$

13. $x^2 = 300$

14. $4x^2 + 9 = 41$

15. $2x^2 + 8 = 4$

16. $x^2 + 8 = 72$

17. $4x^2 + 6 = 7$

18. $x^2 = 121$

19. $5x^2 + 20 = 30$

20. $x^2 + 6 = 17$

21. $3x^2 + 1 = 54$

22. $2x^2 - 7 = 74$

23. $x^2 + 1 = 0$

24. $4x^2 - 8 = -20$

25. $9x^2 = 1$

26. $x^2 + 4 = 4$

27. $3x^2 = 1875$

28. $x^2 = 9$

29. $5x^2 - 980 = 0$

30. $x^2 - 10 = 100$

31. $4x^2 - 2 = 1$

32. $3x^2 - 75 = 0$

33. $x^2 + 25 = 0$

34. $2x^2 - 10 = -4$

35. $4x^2 + 3 = 3$

36. $4x^2 - 8 = 32$

37. $7x^2 + 8 = 15$

38. $x^2 + 1 = 26$

39. $6x^2 = -3$

40. $x^2 - 400 = 0$

41. $7x^2 - 8 = 20$

42. $2x^2 - 1400 = 0$

43. $5x^2 + 25 = 90$

44. $x^2 + 4x^2 = 20$

45. $5x^2 - 18 = -23$

46. $3x^2 - x^2 = 10$

47. $2x^2 + 6 - x^2 = 9$

48. $x^2 - 225 = 0$

49. $-3 + 4x^2 = 2$

50. $7x^2 - 1008 = 0$

51. $6x^2 - 6 = 12$

Solve each problem. If necessary, round to the nearest tenth.

52. You want to build a fence around a square garden that covers 506.25 ft^2 . How many
feet of fence will you need to complete the job?

53. The formula $A = 6s^2$ will calculate the surface area of a cube. Suppose you have a cube
that has a surface area of 216 in^2. What is the length of each side?

54. You drop a pencil out of a window that is 20 ft above the ground. Use the formula $V^2 = 64s$, where V is the speed and s is the distance fallen, to calculate the speed the pencil is
traveling when it hits the ground.

55. Suppose you are going to construct a circular fish pond in your garden. You want the
pond to cover an area of 300 ft^2 What is the radius of the pond?

56. During the construction of a skyscraper, a bolt fell from 400 ft. What was the speed of the
bolt when it hit the ground? Use $V^2 = 64s$.