

Practice 10-3

Solving Quadratic Equations

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

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| 1. $x^2 = 16$ | 2. $x^2 - 144 = 0$ | 3. $3x^2 - 27 = 0$ |
| 4. $x^2 + 16 = 0$ | 5. $x^2 = 12$ | 6. $x^2 = 49$ |
| 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 ft². 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 ft². 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 $V^2 = 64s$.