

Practice

Form G

Solving Quadratic Equations

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

1. $x^2 - 16 = 0$

2. $x^2 + 12 = 0$

3. $2x^2 - 18 = 0$

4. $7x^2 = 0$

5. $\frac{1}{2}x^2 - 2 = 0$

6. $x^2 + 49 = 0$

7. $x^2 - 15 = -15$

8. $4x^2 - 36 = 0$

9. $x^2 + 36 = 0$

Solve each equation by finding square roots. If the equation has no real-number solution, write *no solution*.

10. $t^2 = 25$

11. $k^2 = 484$

12. $z^2 - 256 = 0$

13. $d^2 - 14 = -50$

14. $9y^2 - 16 = 0$

15. $2g^2 - 32 = -32$

16. $4a^2 = 36$

17. $7x^2 + 28 = 0$

18. $6n^2 - 54 = 0$

19. $81 - c^2 = 0$

20. $16x^2 - 49 = 0$

21. $64 + j^2 = 0$

Model each problem with a quadratic equation. Then solve. If necessary, round to the nearest tenth.

22. Find the side length of a square with an area of 196 ft^2 .

23. Find the radius of a circle with an area of 100 in^2 .

24. Find the side length of a square with an area of 50 cm^2 .

Practice (continued)

Form G

Solving Quadratic Equations

25. The square tarp you are raking leaves onto has an area of 150 ft^2 . What is the side length of the tarp? Round your answer to the nearest tenth of a foot if necessary.
26. There is enough mulch to spread over a flower bed with an area of 85 m^2 . What is the radius of the largest circular bed that can be covered by the mulch? Round your answer to the nearest tenth of a meter if necessary.

Mental Math Tell how many solutions each equation has.

27. $q^2 - 22 = -22$

28. $m^2 + 15 = 0$

29. $b^2 - 12 = 12$

Solve each equation by finding square roots. If the equation has no real-number solution, write *no solution*. If a solution is irrational, round to the nearest tenth.

30. $3.35z^2 + 2.75 = -14$

31. $100t^2 + 36 = 100$

32. $5a^2 - \frac{1}{125} = 0$

33. $\frac{1}{3}h^2 - 12 = 0$

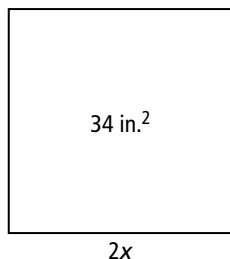
34. $-\frac{1}{2}m^2 + 5 = -10$

35. $11x^2 - 0.75 = 3.21$

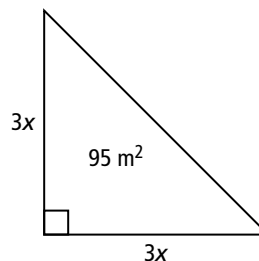
36. Find the value of n such that the equation $x^2 - n = 0$ has 24 and -24 as solutions.

Find the value of x for the square and triangle. If necessary, round to the nearest tenth.

37.



38.



39. **Writing** Explain how the number of solutions for a quadratic equation relates to the graph of the function.