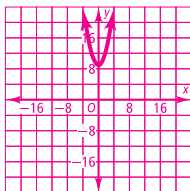# 9-3 Practice   *Form K*

Solving Quadratic Equations

Solve each equation by graphing the related function. If the equation has no real-number solution, write *no solution*.
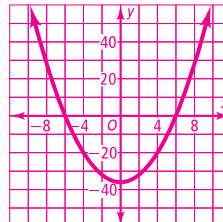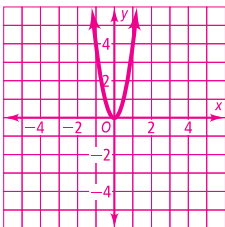
1. $x^2 + 9 = 0$

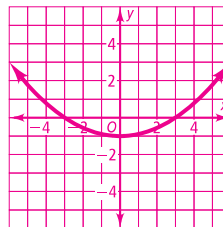**no solution**

2. $x^2 - 36 = 0$
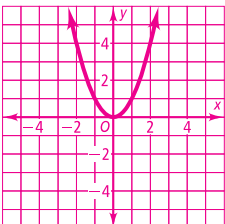
±6

3. $4x^2 = 0$

0

4. $\frac{1}{9}x^2 - 1 = 0$
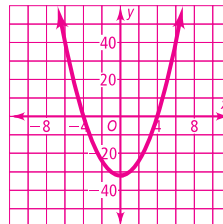
±3

5. $x^2 - 21 = -21$

0

6. $2x^2 - 32 = 0$

±4

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

7. $z^2 = 49$ **±7**

8. $f^2 = 256$ **±16**

9. $h^2 - 25 = -125$ **no solution**

10. $16n^2 - 36 = 0$ **$\pm\frac{3}{2}$**

11. $6c^2 = 24$ **±2**

12. $5p^2 + 45 = 0$ **no solution**

13. $64 - a^2 = 0$ **±8**

14. $49t^2 - 81 = 0$ **$\pm\frac{9}{7}$**

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

15. Find the length of a side of a square with an area of 225 m^2. **$s^2 = 225$; 15 m**

16. Find the radius of a circle with an area of 121 yd^2. **$\pi r^2 = 121$; 6.2 yd**

9-3

Practice (continued)   *Form K*

Solving Quadratic Equations

17. The square yard you are mowing has an area of 9600 ft^2. What is the side length of the yard? Round your answer to the nearest tenth of a foot if necessary. **98 ft**

18. What is the radius of the largest circular quilt that can be made with an area less than or equal to 70 ft^2? Round your answer to the nearest tenth of a foot if necessary. **4.7 ft**

Mental Math Tell how many solutions each equation has.

19. $m^2 + 46 = 46$ **1**

20. $w^2 - 72 = 0$ **2**

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.
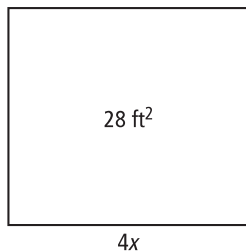
21. $25n^2 + 44 = 144$ **±2**

22. $-\frac{3}{4}y^2 + 5 = -22$ **±6**

23. $\frac{1}{2}a^2 - 8 = 0$ **±4**

24. $2.68b^2 + 4.75 = -2.25$ **no solution**

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

25.   **1.3 ft**

28 ft^2

4x

26.   **4.8 in.**

2x   46 in.^{2}

2x