

9-4 Practice B

Form K

Factoring to Solve Quadratic Equations

Use the Zero-Product Property to solve each equation.

1. $(n + 3)(n - 2) = 0$

2. $(4a + 2)(a - 6) = 0$

3. $(5y - 3)(2y + 1) = 0$

4. $(3k - 2)(6k + 8) = 0$

5. $x(x - 3) = 0$

6. $2v(3v + 4) = 0$

Solve by factoring.

7. $t^2 + 3t - 18 = 0$

8. $j^2 - 17j + 72 = 0$

9. $2c^2 + 9c + 4 = 0$

10. $8k^2 - 2k - 3 = 0$

11. $m^2 + 6m = -5$

12. $y^2 + 3y = 28$

13. $2z^2 + z = 6$

14. $15a^2 - a = 6$

Use the Zero-Product Property to solve each equation. Write your solution in roster form.

15. $x^2 - 10x + 24 = 0$

16. $d^2 + 3d - 10 = 0$

- 17.** The volume of a storage tub shaped like a rectangular prism is 24 ft^3 . The height of the tub is 3 feet. The width is w feet and the length is $w + 2$ feet. Use the formula $V = lwh$ to find the value of w .
- 18.** The area of a parking lot is 2475 ft^2 . The rectangular parking lot has dimensions such that the length is 10 feet longer than the width. What are the dimensions of the parking lot?

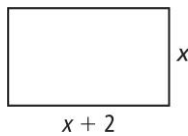
Write each equation in standard form. Then solve.

19. $3x^2 - x - 7 = 2x^2 + 5$

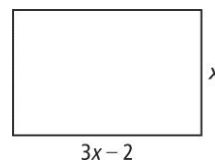
20. $x^2 - 4x - 2 = -9x + 4$

Find the value of x as it relates to each rectangle or triangle.

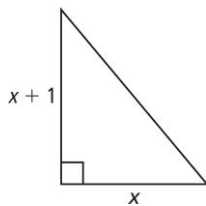
21. Area = 15 m^2



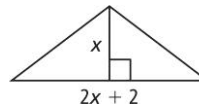
22. Area = 408 in^2



23. Area = 36 ft^2



24. Area = 600 cm^2



25. Reasoning For each equation, find k and the value of any missing solutions.

a. $x^2 - kx - 15 = 0$ where -3 is one solution of the equation.

b. $x^2 - 10x = k$ where 12 is one solution of the equation.

26. Writing Explain how you solve an equation by using the Zero-Product Property.