

**LESSON**  
**8.6**

# Practice A

*For use with the lesson "Factor  $ax^2 + bx + c$ "*
**Match the trinomial with its correct factorization.**

- |                    |                       |
|--------------------|-----------------------|
| 1. $4x^2 - 2x - 2$ | A. $(4x + 1)(x - 2)$  |
| 2. $4x^2 - 7x - 2$ | B. $(2x + 1)(2x - 2)$ |
| 3. $4x^2 + 7x - 2$ | C. $(4x - 1)(x + 2)$  |

**Factor the trinomial.**

- |                      |                       |                      |
|----------------------|-----------------------|----------------------|
| 4. $-x^2 - 2x + 15$  | 5. $-m^2 + 3m - 2$    | 6. $-p^2 + 5p + 14$  |
| 7. $2w^2 + 7w + 3$   | 8. $3y^2 + 5y + 2$    | 9. $2b^2 + b - 1$    |
| 10. $3n^2 - 3$       | 11. $5a^2 + 13a - 6$  | 12. $2z^2 + 9z - 5$  |
| 13. $7d^2 - 15d + 2$ | 14. $2r^2 - 12r + 10$ | 15. $6s^2 - 13s + 2$ |

**Solve the equation.**

- |                           |                          |                           |
|---------------------------|--------------------------|---------------------------|
| 16. $2x^2 + 7x - 15 = 0$  | 17. $3n^2 + 13n + 4 = 0$ | 18. $4b^2 + 2b - 2 = 0$   |
| 19. $2m^2 + 5m - 3 = 0$   | 20. $3p^2 + 11p - 4 = 0$ | 21. $3y^2 + 11y + 10 = 0$ |
| 22. $4r^2 + 8r + 3 = 0$   | 23. $9w^2 + 3w - 2 = 0$  | 24. $5a^2 - 8a - 4 = 0$   |
| 25. $3c^2 + 19c - 14 = 0$ | 26. $8z^2 + 6z + 1 = 0$  | 27. $12d^2 + 14d - 6 = 0$ |

**Find the zeros of the polynomial function.**

- |                            |                              |                              |
|----------------------------|------------------------------|------------------------------|
| 28. $f(x) = -x^2 - 4x + 5$ | 29. $g(x) = 3x^2 - 13x - 10$ | 30. $h(x) = -2x^2 + 9x + 5$  |
| 31. $g(x) = -x^2 + 5x - 6$ | 32. $f(x) = 4x^2 - 9x + 2$   | 33. $g(x) = -2x^2 - 9x + 18$ |
| 34. $h(x) = 2x^2 + 7x - 4$ | 35. $h(x) = 6x^2 + 3x - 9$   | 36. $f(x) = -4x^2 - 9x - 2$  |

**37. Ball Toss** A ball is tossed into the air from a height of 8 feet with an initial velocity of 8 feet per second. Find the time  $t$  (in seconds) it takes for the object to reach the ground by solving the equation  $-16t^2 + 8t + 8 = 0$ .

**38. Wallpaper** You trimmed a large strip of wallpaper from a scrap to fit into the corner of a wall you are wallpapering. You trimmed 15 inches from the length and 6 inches from the width. The area of the resulting strip of wallpaper is 684 square inches.

- If the length of the original strip of wallpaper is four times the original width, write a polynomial that represents the area of the trimmed strip of wallpaper.
- What are the dimensions of the original scrap of wallpaper?

