

# Algebra I

## Worksheet 8.6

Name \_\_\_\_\_

**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?







