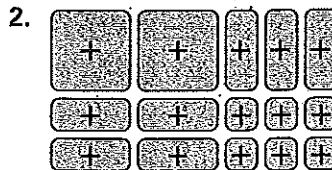
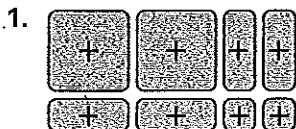


Practice A

For use with pages 611–617

Use the model to write the factors of the trinomial.



Match the trinomial with a correct factorization.

3. $2x^2 - 11x - 6$

A. $(2x + 3)(x + 2)$

4. $2x^2 + 11x - 6$

B. $(2x - 1)(x + 6)$

5. $2x^2 - 7x + 6$

C. $(2x + 1)(x - 6)$

6. $2x^2 + 7x + 6$

D. $(2x - 3)(x - 2)$

Choose the correct factorization. If neither is correct, find the correct factorization.

7. $2x^2 - 3x - 20$

A. $(2x + 5)(x - 4)$

B. $(2x + 10)(x - 2)$

8. $3x^2 + 11x - 4$

A. $(3x + 1)(x - 4)$

B. $(3x - 2)(x + 2)$

9. $3x^2 - 12x + 12$

A. $(x - 3)(3x - 4)$

B. $(x - 2)(3x - 6)$

Factor the trinomial if possible. If it cannot be factored, write *not factorable*.

10. $2x^2 - 5x - 3$

11. $3x^2 + 10x - 8$

12. $7x^2 - 31x + 12$

13. $3x^2 + 8x - 5$

14. $5x^2 + 7x + 2$

15. $6x^2 - 11x + 3$

16. $30x^2 + x - 1$

17. $5x^2 - 7x + 3$

18. $2x^2 - 9x - 5$

Solve the equation by factoring.

19. $3x^2 + 9x - 12 = 0$

20. $3x^2 + 13x - 10 = 0$

21. $2x^2 + 3x - 5 = 0$

22. $5x^2 - 8x + 3 = 0$

23. $3x^2 + 14x + 15 = 0$

24. $8x^2 - 16x + 6 = 0$

25. $7x^2 + 11x - 30 = 0$

26. $5x^2 - 22x - 15 = 0$

27. $2x^2 - 15x + 28 = 0$

28. **Ball Toss** A ball is tossed into the air from a height of 10 feet with an initial velocity of 12 feet per second. Find the time t (in seconds) for the object to reach the ground by solving the equation $-16t^2 + 12t + 10 = 0$.

Practice B

For use with pages 611–617

Match the trinomial with a correct factorization.

- | | |
|----------------------|----------------------|
| 1. $2x^2 + 2x - 12$ | A. $(2x + 3)(x + 4)$ |
| 2. $2x^2 + 14x + 12$ | B. $2(x - 2)(x + 3)$ |
| 3. $2x^2 - 10x + 12$ | C. $2(x + 1)(x + 6)$ |
| 4. $2x^2 - 2x - 12$ | D. $2(x - 1)(x - 6)$ |
| 5. $2x^2 + 11x + 12$ | E. $2(x + 2)(x - 3)$ |
| 6. $2x^2 - 14x + 12$ | F. $2(x - 2)(x - 3)$ |

Choose the correct factorization. If neither is correct, find the correct factorization.

- | | | |
|----------------------|----------------------|-----------------------|
| 7. $2x^2 + 4x - 16$ | 8. $5x^2 - 17x + 6$ | 9. $6x^2 - 17x + 5$ |
| A. $(2x + 4)(x - 4)$ | A. $(5x + 1)(x + 6)$ | A. $(3x - 1)(2x - 5)$ |
| B. $(2x + 8)(x - 2)$ | B. $(5x - 3)(x - 2)$ | B. $(3x + 1)(2x + 5)$ |

Factor the trinomial if possible. If it cannot be factored, write *not factorable*.

- | | | |
|-----------------------|----------------------|-----------------------|
| 10. $2x^2 + 11x + 15$ | 11. $3x^2 + 10x - 7$ | 12. $10x^2 + 13x - 3$ |
| 13. $10x^2 + 17x + 3$ | 14. $8x^2 + 2x - 3$ | 15. $3x^2 + 2x - 2$ |
| 16. $12x^2 + 16x - 3$ | 17. $4x^2 - 3x + 8$ | 18. $10x^2 - 9x - 9$ |

Solve the equation by factoring.

- | | | |
|----------------------------|---------------------------|--------------------------|
| 19. $6x^2 - 10x - 4 = 0$ | 20. $6x^2 - 27x + 27 = 0$ | 21. $3x^2 + 5x + 2 = 0$ |
| 22. $8x^2 + 10x + 3 = 0$ | 23. $4x^2 - 8x - 5 = 0$ | 24. $12x^2 - 5x - 3 = 0$ |
| 25. $15x^2 + 16x - 15 = 0$ | 26. $8x^2 - 22x + 5 = 0$ | 27. $6x^2 + 5x + 1 = 0$ |

28. **Summer Business** Your friend's weekly revenue R (in dollars) from her tie-dye T-shirt business can be modeled by

$$R = -2t^2 + 37t + 60$$

where t represents the week of sales, with $t = 0$ for the first week. In the first week, 3 T-shirts were sold. After that, the sales increased by 2 T-shirts per week. Did the price of T-shirts remain constant during the 8-week summer season? Explain.

29. **Cliff Diving** A cliff diver jumps from a ledge 96 feet above the ocean with an initial upward velocity of 16 feet per second. How long will it take until the diver enters the water?

Practice C

For use with pages 611–617

Choose the correct factorization. If neither is correct, find the correct factorization.

1. $6x^2 + 5x - 4$

A. $(3x + 4)(2x - 1)$

B. $(3x - 4)(2x + 1)$

2. $6x^2 - 13x - 5$

A. $(6x - 6)(x + 1)$

B. $(6x + 6)(x - 1)$

3. $12x^2 + 7x - 12$

A. $(4x + 3)(3x - 4)$

B. $(4x - 3)(3x + 4)$

Factor the trinomial if possible. If it cannot be factored, write *not factorable*.

4. $2x^2 - x - 21$

7. $3x^2 + 11x + 10$

10. $14x^2 - 19x - 40$

5. $3x^2 + 9x - 7$

8. $2x^2 - x - 6$

11. $4x^2 - 3x + 7$

6. $9x^2 + 6x + 1$

9. $3x^2 + x - 1$

12. $6x^2 - 36x + 54$

Solve the equation by factoring.

13. $2x^2 + 7x + 3 = 0$

16. $6x^2 + 13x + 5 = 0$

19. $10x^2 + 5 = -15x$

14. $3x^2 + 14x - 5 = 0$

17. $3x^2 + 7x = -2$

20. $12x^2 + 32x = -5$

15. $3x^2 + 11x - 4 = 0$

18. $12x^2 = 5x + 3$

21. $140x^2 + 300x = -40x - 120$

Solve the equation by factoring, by square roots, or by using the quadratic formula.

22. $4x^2 - 9 = 0$

25. $x^2 + 21 = 10x$

28. $2x^2 + 3x + 5 = 8$

23. $x^2 + 6x = 0$

26. $2x^2 + 12x + 10 = -8$

29. $4x^2 - 64 = 0$

24. $x^2 - 4x + 1 = 0$

27. $12x^2 + x + 1 = 0$

30. $18x^2 - 27x = 35$

Vertical Motion In Exercises 31 and 32, use the vertical motion model $h = -16t^2 + vt + s$, where h is the height (in feet), t is the time in motion (in seconds), v is the initial velocity (in feet per second), and s is the initial height (in feet). Solve by factoring.

31. A baseball player releases a baseball at a height of 6 feet with an initial velocity of 46 feet per second. Find the time (in seconds) for the ball to reach the ground.

32. A miniature rocket is launched off a roof 25 feet above the ground with an initial velocity of 30 feet per second. How much time will elapse before the rocket reaches the ground?