

Practice B

For use with pages 604–609

Match the trinomial with a correct factorization.

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| 1. $x^2 - 5x + 6$ | A. $(x - 2)(x - 2)$ |
| 2. $x^2 + 5x + 6$ | B. $(x - 3)(x + 2)$ |
| 3. $x^2 - x - 6$ | C. $(x - 3)(x - 3)$ |
| 4. $x^2 + x - 6$ | D. $(x - 3)(x - 2)$ |
| 5. $x^2 - 4x + 4$ | E. $(x + 3)(x + 2)$ |
| 6. $x^2 - 6x + 9$ | F. $(x + 3)(x - 2)$ |

Factor the trinomial.

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| 7. $x^2 + x - 6$ | 8. $x^2 - 8x + 15$ | 9. $x^2 + 8x + 15$ |
| 10. $x^2 - 5x + 4$ | 11. $x^2 - x - 42$ | 12. $x^2 + 6x - 16$ |
| 13. $x^2 - 16x + 64$ | 14. $x^2 + 13x + 36$ | 15. $x^2 - 15x + 36$ |

Solve the equation by factoring.

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| 16. $x^2 + 3x - 40 = 0$ | 17. $x^2 - 16x + 63 = 0$ | 18. $x^2 - 11x + 28 = 0$ |
| 19. $x^2 - 6x - 7 = 0$ | 20. $x^2 - 6x + 9 = 0$ | 21. $x^2 + 8x + 15 = 0$ |
| 22. $x^2 + x = 6$ | 23. $x^2 + 11x = 12$ | 24. $x^2 - 3x = 28$ |
| 25. $x^2 - 7 = -6x$ | 26. $x^2 - 8 = -7x$ | 27. $x^2 - 4x - 8 = 4$ |

Tell whether the quadratic expression can be factored with integer coefficients. If it can, find the factors.

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| 28. $x^2 + 17x + 60$ | 29. $x^2 - 15x + 48$ | 30. $x^2 - 5x - 36$ |
| 31. $x^2 + 13x + 30$ | 32. $x^2 + 11x + 30$ | 33. $x^2 + 8x - 40$ |

- 34. Summer Reading** The library sponsored a summer reading program for children. The number of children C participating each week can be modeled by $C = t^2 + 10t + 16$, where t represents the week and $t = 0$ corresponds to the first week. The first week there are 2 groups of children. Each week, for 5 weeks, a new group is added. Find a model for the average number of children in each group. Use the model to find the number of children in each group during each week.

Area of a Circle In Exercises 35 and 36, use the following information.

The area of a circle is given by $A = \pi(x^2 - 20x + 100)$.

- 35.** Use factoring to find an expression for the radius of the circle.
- 36.** If the area of the circle is 16π square feet, what is the value of x ?