

**Practice C**

For use with pages 604–609

**Factor the trinomial.**

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|-----------------------|----------------------|----------------------|
| 1. $x^2 + 5x + 6$     | 2. $x^2 + 6x + 8$    | 3. $x^2 - 4x + 3$    |
| 4. $x^2 - 11x + 30$   | 5. $x^2 - 2x - 8$    | 6. $x^2 - x - 12$    |
| 7. $x^2 + 3x - 28$    | 8. $x^2 + 5x - 14$   | 9. $x^2 + 8x + 15$   |
| 10. $x^2 - 20x + 100$ | 11. $x^2 + 17x + 72$ | 12. $x^2 - 12x - 64$ |

**Solve the equation by factoring.**

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|--------------------------|--------------------------|--------------------------|
| 13. $x^2 - 13x + 36 = 0$ | 14. $x^2 - 3x - 70 = 0$  | 15. $x^2 + 4x - 45 = 0$  |
| 16. $x^2 + 11x + 28 = 0$ | 17. $x^2 - 15x + 44 = 0$ | 18. $x^2 + 3x = 18$      |
| 19. $x^2 - 2x = 63$      | 20. $x^2 - 14 = 5x$      | 21. $x^2 + 10 = 11x$     |
| 22. $x^2 - x = 12$       | 23. $x^2 - 4x = -3$      | 24. $x^2 - 14 = -5x$     |
| 25. $x^2 - x = 3x + 12$  | 26. $x^2 + 6x + 10 = 2$  | 27. $x^2 + 2x - 40 = 40$ |

**Use the discriminant to tell whether the quadratic expression can be factored with integer coefficients. If it can, find the factors.**

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|----------------------|----------------------|----------------------|
| 28. $x^2 - 12x + 32$ | 29. $x^2 - 13x - 48$ | 30. $x^2 - x - 90$   |
| 31. $x^2 - 5x - 84$  | 32. $x^2 - 17x + 66$ | 33. $x^2 + 10x - 44$ |

**Write a quadratic equation that has the given solutions.**

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|--------------|--------------------|--------------|
| 34. 12 and 5 | 35. $-18$ and $20$ | 36. 25 and 0 |
|--------------|--------------------|--------------|

37. **Summer Job** Every summer you work at a grocery store. Your daily wages  $W$  can be modeled by  $W = -\frac{1}{4}t^2 - 3t + 40$ , where  $t$  represents the number of years since the summer of 1998. The first summer you work 8 hours a day. Each summer for the next 4 years you work 1 hour less per day. Find a model for your average hourly wage each summer. Use the model to find your hourly rate during each summer.

**Area of a Rectangle** In Exercises 38–40, use the following information.

The area of a rectangle is given by  $A = x^2 + 18x + 72$ .

38. Use factoring to find an expression for the dimensions of the rectangle.
39. If the area of the rectangle is 7 square feet, what are the possible values of  $x$ ?
40. What are the dimensions of the rectangle?