

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 |
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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?