

LESSON
8.6

Practice B

For use with the lesson "Factor $ax^2 + bx + c$ "
Factor the trinomial.

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|-----------------------|------------------------|----------------------|
| 1. $-x^2 - 3x + 28$ | 2. $-p^2 + 8p - 12$ | 3. $-m^2 - 13m - 40$ |
| 4. $2y^2 + 15y + 7$ | 5. $3a^2 - 13a + 4$ | 6. $5d^2 - 18d - 8$ |
| 7. $6c^2 + 7c + 2$ | 8. $10n^2 - 26n + 12$ | 9. $12w^2 + 8w - 15$ |
| 10. $-2b^2 - 5b + 12$ | 11. $-3r^2 - 17r - 10$ | 12. $-4s^2 + 6s + 4$ |

Solve the equation.

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|--------------------------|---------------------------|---------------------------|
| 13. $-x^2 + x + 20 = 0$ | 14. $-m^2 - 10m - 16 = 0$ | 15. $-p^2 + 13p - 42 = 0$ |
| 16. $2c^2 - 11c + 5 = 0$ | 17. $2y^2 + y - 10 = 0$ | 18. $16r^2 + 18r + 5 = 0$ |
| 19. $3w^2 + 19w + 6 = 0$ | 20. $12n^2 - 11n + 2 = 0$ | 21. $15a^2 - 2a - 8 = 0$ |
| 22. $-2x^2 - 9x - 4 = 0$ | 23. $-3s^2 - s + 10 = 0$ | 24. $8d^2 - 6d - 5 = 0$ |

Find the zeros of the polynomial function.

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|------------------------------|-------------------------------|-------------------------------|
| 25. $f(x) = -x^2 + 6x + 27$ | 26. $f(x) = 6x^2 + 45x - 24$ | 27. $f(x) = -3x^2 - 14x + 24$ |
| 28. $f(x) = -2x^2 + 2x + 4$ | 29. $f(x) = 3x^2 - 17x + 20$ | 30. $f(x) = 8x^2 + 53x - 21$ |
| 31. $f(x) = 4x^2 + 29x + 30$ | 32. $f(x) = -2x^2 - 17x + 30$ | 33. $f(x) = 10x^2 + 5x - 5$ |

- 34. Summer Business** Your weekly revenue R (in dollars) from your tie-dye T-shirt business can be modeled by

$$R = -2t^2 + 87t + 90$$

where t represents the number of weeks since the first week you started selling T-shirts. How much did you make your first week?

- 35. 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?

- 36. Wall Mirror** You plan on making a wall hanging that contains two small mirrors as shown.

- Write a polynomial that represents the area of the wall hanging.
- The area of the wall hanging will be 480 square inches. Find the length and width of the mirrors you will use.

