

LESSON
8.4**Practice B**

For use with the lesson "Solve Polynomial Equations in Factored Form"

Solve the equation.

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|----------------------------|--|--|
| 1. $(x + 14)(x - 3) = 0$ | 2. $(m - 12)(m + 5) = 0$ | 3. $(p + 15)(p + 24) = 0$ |
| 4. $(n - 8)(n - 9) = 0$ | 5. $(d + 8)\left(d - \frac{1}{2}\right) = 0$ | 6. $\left(c + \frac{3}{4}\right)(c - 6) = 0$ |
| 7. $(2z - 8)(z + 5) = 0$ | 8. $(y - 3)(5y + 10) = 0$ | 9. $(6b - 4)(b - 8) = 0$ |
| 10. $(8x + 4)(6x - 3) = 0$ | 11. $(3x + 9)(6x - 3) = 0$ | 12. $(4x + 5)(4x - 5) = 0$ |

Factor out the greatest common monomial factor.

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|-------------------|------------------|--------------------|
| 13. $10x - 10y$ | 14. $8x^2 + 20y$ | 15. $18a^2 - 6b$ |
| 16. $4x^2 - 4x$ | 17. $r^2 + 2rs$ | 18. $2m^2 + 6mn$ |
| 19. $5p^2q + 10q$ | 20. $9a^5 + a^3$ | 21. $6w^3 - 14w^2$ |

Solve the equation.

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|-----------------------|-----------------------|------------------------|
| 22. $m^2 - 10m = 0$ | 23. $b^2 + 14b = 0$ | 24. $5w^2 - 5w = 0$ |
| 25. $24k^2 + 24k = 0$ | 26. $8r^2 - 24r = 0$ | 27. $9p^2 + 18p = 0$ |
| 28. $6n^2 - 15n = 0$ | 29. $-8y^2 - 10y = 0$ | 30. $-10b^2 + 25b = 0$ |
| 31. $8c^2 = 4c$ | 32. $30r^2 = -15r$ | 33. $-24y^2 = 9y$ |

- 34. Diving Board** A diver jumps from a diving board that is 24 feet above the water. The height of the diver is given by

$$h = -16(t - 1.5)(t + 1)$$

where the height h is measured in feet, and the time t is measured in seconds. When will the diver hit the water? Can you see a quick way to find the answer? *Explain.*

- 35. Dog** To catch a frisbee, a dog leaps into the air with an initial velocity of 14 feet per second.
- Write a model for the height of the dog above the ground.
 - After how many seconds does the dog land on the ground?
- 36. Desktop Areas** You have two components to the desktop where you do your homework that fit together into an L shape. The two components have the same area.
- Write an equation that relates the areas of the desktop components.
 - Find the value of w .
 - What is the combined area of the desktop components?

