

LESSON  
8.4**Practice B**

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

**Solve the equation.**

- |                            |  |  |
|----------------------------|--|--|
| 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.**

- |                   |                  |                    |
|-------------------|------------------|--------------------|
| 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.**

- |                       |                       |                        |
|-----------------------|-----------------------|------------------------|
| 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?

