

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 17** Simplifying Radical Expressions  
**Lesson 1** Simplifying Radicals

**independent practice**

**Simplify.**

- |                           |                            |
|---------------------------|----------------------------|
| 1. $\sqrt{25}$ _____      | 2. $\sqrt{49}$ _____       |
| 3. $\sqrt{32}$ _____      | 4. $\sqrt{18}$ _____       |
| 5. $\sqrt{12}$ _____      | 6. $\sqrt{20}$ _____       |
| 7. $\sqrt{75}$ _____      | 8. $\sqrt{50}$ _____       |
| 9. $\sqrt{24}$ _____      | 10. $\sqrt{72}$ _____      |
| 11. $\sqrt{48}$ _____     | 12. $\sqrt{125}$ _____     |
| 13. $\sqrt{-20}$ _____    | 14. $-\sqrt[3]{135}$ _____ |
| 15. $-\sqrt{300}$ _____   | 16. $-\sqrt{80}$ _____     |
| 17. $\sqrt[3]{56}$ _____  | 18. $\sqrt[3]{16}$ _____   |
| 19. $\sqrt[3]{-48}$ _____ | 20. $\sqrt{-18}$ _____     |

**Journal**

1. What does the square root symbol mean?
2. Why are there no real answers to square roots of negative numbers, but there are real answers to cube roots of negative numbers?
3. Why is it better to simplify radicals than to find a decimal approximation?
4. George simplified  $\sqrt{720}$  and got  $6\sqrt{20}$ . Carrie simplified  $\sqrt{720}$  and got  $12\sqrt{5}$ . Who is correct and why?
5. Explain how to simplify  $\sqrt{75}$ .

**Cumulative Review**

**Solve. Simplify any radical answers.**

- |                              |                             |
|------------------------------|-----------------------------|
| 1. $x^2 = 24$ _____          | 2. $x^2 = 245$ _____        |
| 3. $x^2 + 5x + 6 = 0$ _____  | 4. $x^2 - 4x = 12$ _____    |
| 5. $x^2 - 3x - 10 = 0$ _____ | 6. $x^2 + 5x + 4 = 0$ _____ |

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7.  $x^2 - 4x - 7 = 0$  \_\_\_\_\_

8.  $x^2 - 2x - 5 = 0$  \_\_\_\_\_

9.  $-x^2 - 3x + 9 = 0$  \_\_\_\_\_

10.  $\frac{x^2 + 2x + 1}{x - 1} = 8$  \_\_\_\_\_

