

NAME _____

DATE _____

Module 17 Simplifying Radical Expressions
Lesson 4 Dividing Radicals

independent practice

Simplify each radical expression.

1. $\sqrt{\frac{49}{81}}$

2. $\sqrt{\frac{64}{25}}$

3. $\frac{\sqrt{36}}{\sqrt{6}}$

4. $\frac{\sqrt{16}}{\sqrt{x^2}}$

5. $\frac{\sqrt{y^2}}{\sqrt{25}}$

6. $\frac{\sqrt{51}}{\sqrt{17}}$

7. $\frac{\sqrt{16}}{\sqrt{4}}$

8. $\sqrt{\frac{27}{3}}$

9. $\frac{\sqrt{3}}{\sqrt{5}}$

10. $\sqrt{\frac{6}{7}}$

11. $\frac{\sqrt{5}}{\sqrt{14}}$

12. $\frac{\sqrt{6}}{\sqrt{11}}$

13. $\sqrt{\frac{7}{8}}$

14. $\frac{1}{\sqrt{18}}$

15. $\frac{2}{\sqrt{8}}$

16. $\sqrt{\frac{4}{18}}$

17. $\frac{3}{\sqrt{6} + \sqrt{2}}$

18. $\frac{8}{\sqrt{7} - \sqrt{5}}$

19. $\frac{5}{\sqrt{4} + \sqrt{3}}$

20. $\frac{9}{\sqrt{11} - \sqrt{5}}$

Journal

1. Explain how to write the radical expression $\sqrt[3]{8}$ in simplest form.
2. Define and demonstrate the Quotient Property of Square Roots.
3. Which of the two values, $\frac{\sqrt{11}}{2}$ or $\frac{\sqrt{22}}{2}$, is $\frac{\sqrt{11}}{\sqrt{2}}$ in simplest form? Justify your answer.
4. Describe what criteria must be met for a radical expression to be in simplest form.
5. Describe the process of writing the expression $\frac{2}{\sqrt{6} + \sqrt{3}}$ in simplest form.

Cumulative Review

1. Find the restricted value(s) in the domain of the expression $\frac{12}{x^2 - 4}$.

2. Solve for m : $27m = 45 \cdot 3$ _____
3. Reduce the following expression to lowest terms: $\frac{6a + 18}{3a^2 + 9a}$.

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4. Simplify: $\frac{24x^2y^3}{5z^3} \cdot \frac{15x^2z^2}{8xy}$ _____
5. Solve for n : $n - 12 = \frac{n}{3}$. _____
6. Solve for x : $\frac{x}{3} = \frac{15}{5}$. _____
7. The variable y varies directly as x : y is 7 when x is 42. Find x when y is 14.

8. The variable y varies inversely as x : y is 6 when x is 35. Find y when x is 15.

9. Last week Sue worked 24 hours and earned \$144. How much money does she earn per hour?

10. The time needed to drive from Little Rock to New York City varies inversely as the speed traveled. If the trip takes 25 hours at 50 miles per hour, how long will it take traveling at 75 miles per hour?

