

NAME _____

DATE _____

Module 15 Simplifying Rational Expressions
Lesson 2 Simplifying Rational Expressions

independent practice

Simplify the following rational expressions.

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|---|--|
| 1. $\frac{24x}{8x^2}$ _____ | 2. $\frac{14y^2z^4}{21xy^2z}$ _____ |
| 3. $\frac{8m^2n^4}{40mn^8p}$ _____ | 4. $\frac{20d^2 - 5d}{4d - 1}$ _____ |
| 5. $\frac{8p^2 - 32p}{16p^2 - 64p}$ _____ | 6. $\frac{t^2 + 3t}{8t^2 + 24t}$ _____ |
| 7. $\frac{2y - 8}{y^2 - 4y}$ _____ | 8. $\frac{y - 3}{3 - y}$ _____ |
| 9. $\frac{x^2 + 5}{x^2}$ _____ | 10. $\frac{4r^3 - 12r}{6 - 2r^2}$ _____ |
| 11. $\frac{p^2 + 4p}{8p + 32}$ _____ | 12. $\frac{6k + 12}{8k + 16}$ _____ |
| 13. $\frac{s - 2}{s^2 - 5s + 6}$ _____ | 14. $\frac{d^2 + 4d - 32}{d - 4}$ _____ |
| 15. $\frac{f^2 + 2f - 15}{f^2 - 8f + 15}$ _____ | 16. $\frac{y^2 + y - 12}{y^2 + 3y - 18}$ _____ |
| 17. $\frac{g^2 - 25}{g^2 - 7g + 10}$ _____ | 18. $\frac{x^2 + 12x + 27}{x^2 - 81}$ _____ |
| 19. $\frac{2b^2 + 7b - 4}{4b^2 + 8b - 5}$ _____ | 20. $\frac{5h^3 + 13h^2 - 6h}{2h^3 + 5h^2 - 3h}$ _____ |

Journal

- Michael believes the expression $\frac{y+8}{y+4}$ simplifies to two. Is he correct? Explain.
- Explain how a student would simplify $\frac{14x-7}{2x^2+3x-2}$.
- Explain why $\frac{m-6}{6-m}$ is equal to negative one.
- Find a rational expression that will simplify to $\frac{x+2}{x-1}$. Explain.

Cumulative Review

State the restricted values of each rational expression.

- | | |
|---------------------------|---------------------------|
| 1. $\frac{5}{x}$ _____ | 2. $\frac{v}{v+3}$ _____ |
| 3. $\frac{5b+3}{4}$ _____ | 4. $\frac{r-1}{3r}$ _____ |

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5. $\frac{y - 4}{2y + 8}$ _____

6. $\frac{5z - 3}{2z + 1}$ _____

7. $\frac{3t - 4}{t^2 + 2t - 8}$ _____

8. $\frac{3b^2 + 11b - 20}{6b^2 - 11b - 35}$ _____

Simplify. State all restricted values.

9. $\frac{a + 4}{2a + 8}$ _____

10. $\frac{2x^2}{6x - 4}$ _____

