

5-1 Multiplying and Dividing Rational Expressions Worksheet 2

Simplify each expression.

1. $\frac{9a^2b^3}{27a^4b^4c}$	2. $\frac{(2m^3n^2)^3}{-18m^5n^4}$	3. $\frac{10y^2 + 15y}{35y^2 - 5y}$
4. $\frac{2k^2 - k - 15}{k^2 - 9}$	5. $\frac{25 - v^2}{3v^2 - 13v - 10}$	6. $\frac{x^4 + x^3 - 2x^2}{x^4 - x^3}$
7. $\frac{-2u^3y}{15xz^5} \cdot \frac{25x^3}{14u^2y^2}$	8. $\frac{a+y}{6} \cdot \frac{4}{y+a}$	9. $\frac{n^5}{n-6} \cdot \frac{n^2-6n}{n^8}$
10. $\frac{a-y}{w+n} \cdot \frac{w^2-n^2}{y-a}$	11. $\frac{x^2-5x-24}{6x+2x^2} \cdot \frac{5x^2}{8-x}$	12. $\frac{x-5}{10x-2} \cdot \frac{25x^2-1}{x^2-10x+25}$

13. $\frac{a^5y^3}{wy^7} \div \frac{a^3w^2}{w^5y^2}$	14. $\left(\frac{2xy}{w^2}\right)^3 \div \frac{24x^2}{w^5}$	15. $\frac{x+y}{6} \div \frac{x^2-y^2}{3}$
16. $\frac{3x+6}{x^2-9} \div \frac{6x^2+12x}{4x+12}$	17. $\frac{2s^2-7s-15}{(s+4)^2} \div \frac{s^2-10s+25}{s+4}$	18. $\frac{9-a^2}{a^2+5a+6} \div \frac{2a-6}{5a+10}$
19. $\frac{\frac{2x+1}{x}}{\frac{4-x}{x}}$	20. $\frac{\frac{x^2-9}{4}}{\frac{3-x}{8}}$	21. $\frac{\frac{x^3+2^3}{x^2-2x}}{\frac{(x+2)^3}{x^2+4x+4}}$
22. A right triangle with an area of $x^2 - 4$ square units has a leg that measures $2x + 4$ units. Determine the length of the other leg of the triangle.		23. A rectangular pyramid has a base area of $\frac{x^2+3x-10}{2x}$ square centimeters and a height of $\frac{x^2-3x}{x^2-5x+6}$ centimeters. Write a rational expression to describe the volume of the rectangular pyramid.

