Name: Period: Date:

Practice Worksheet: Multiplying & Dividing Rational Expressions

Simplify each expression completely. Work must be shown and answers correct to get credit.

Level 1	Level 2	Level 3
1] $\frac{5x}{9x^3} \cdot \frac{15x}{25x^0}$	6] $\frac{6xy^2}{12x^3y} \cdot \frac{4xy}{3y^2}$	11] $\frac{(5xy)^2}{10x^{-3}y} \cdot \frac{2xy^{-1}}{5y^3}$
2] $\frac{5x}{9x^3} \div \frac{15x}{25x^0}$	7] $\frac{6xy^2}{12x^3y} \div \frac{4xy}{3y^2}$	12] $\frac{(5xy)^2}{10x^{-3}y} \div \frac{2xy^{-1}}{5y^3}$
3] $\frac{x+4}{3(x-4)} \div \frac{6}{x-4}$	8] $\frac{(x+4)(x-3)}{x^2-16} \div \frac{x^2-9}{2x+6}$	13] $\frac{4x^2-25}{2x^2+5x} \div \frac{4x-10}{x-5}$
4] $\frac{x^2-49}{2(x+7)} \cdot \frac{4x-2}{(2x-1)(x-7)}$	9] $\frac{x^2-4}{2x+4} \cdot \frac{x+2}{x^2-4x+4}$	14] $\frac{x^2-2x-15}{(3x+2)(x-5)} \cdot \frac{9x+6}{x^2-9}$
5] $\frac{(x+4)(x-4)}{x+4} \div \frac{x^2-8x+16}{3(x-4)}$	10] $\frac{x^2-9}{x^2+5x+6} \div \frac{2x-6}{5x+10}$	15] $\frac{(2x+1)(2x-1)}{2x^2-5x-3} \div \frac{4x-12}{x^2-6x+9}$

Level 4	Level 5 (Extra Credit)
16] $\frac{x^3-27}{x^2-9} \div \frac{x^2+3x+9}{3x+9}$	19] $\frac{x^2-16}{2x^2+11x+12} \cdot \frac{x^2+3x}{x^3-x^2} \div \frac{x^2-x-12}{2x^2+x-3}$
17] $\frac{x^2-16}{8y} \cdot \frac{4x^3y^2}{x^2+8x+16} \div \frac{x^5y}{2x+8}$	20] $\frac{\frac{x^2-9}{4}}{\frac{x-3}{8}}$
18] $\frac{2x^2-4x+8}{4x^2} \div \frac{x^3+8}{x^3+2x^2}$	21] $\frac{\frac{x^3+8}{x^2-2x}}{\frac{x^2-2x+4}{x^2-4x+4}}$