

5-1 Simplify, Multiply, and Divide Rational Expressions Notes

A rational expression is the _____ of _____ such as _____
where the _____ (these are called _____)

A complex fraction is a _____ whose _____
contains a rational expression such as _____.

Example 1: Simplify each expression and state the excluded value(s).

a. $\frac{6x^2y^5}{3x^3y}$	b. $\frac{2x(x-5)}{(x-5)(x+1)}$	c. $\frac{6-3x}{x^2-4}$	d. $\frac{x^2+x-12}{x^2+9x+20}$	e. $\frac{2x^2-5x-3}{3x^3-7x^2-6x}$
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Example 2: Multiply each expression. You don't have to state any excluded value(s).

a. $\frac{4a}{5b} \cdot \frac{15b}{16a^3}$	b. $\frac{3x+6}{7x-7} \cdot \frac{14x-14}{5x+10}$	c. $\frac{x^2+2x-8}{x^2+4x+3} \cdot \frac{3x+3}{2-x}$	d. $\frac{x^2}{x^2-9} \cdot \frac{4x^2-4x-24}{2x^4}$
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Example 3: Divide each expression. You don't have to state any excluded value(s).

a. $\frac{4x^2y}{15a^3b^3} \div \frac{2xy^2}{5ab^3}$	b. $\frac{4+a}{a+3} \div \frac{a^2+a-12}{4a+12}$	c. $\frac{6x+12}{\frac{5}{3x+6}}$ 10	d. $\frac{\frac{x^2}{x^2-25}}{\frac{x}{5-x}}$
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