

M117 SECTION 7.7 COMPLEX RATIONAL EXPRESSIONS

A *complex rational expression* is a rational expression that contains rational expression in the numerator or denominator. (Fractions in fractions)

- How to solve:
1. Simplify the numerator and denominator so that they are single fractions.
 2. Rewrite using the \div sign
 3. Change to a multiplication problem & multiply
 4. Reduce

Examples:

$$\frac{\frac{20}{27}}{\frac{5}{18}}$$

$$\frac{\frac{1}{4} + \frac{2}{3}}{\frac{3}{8} - \frac{1}{6}}$$

$$\frac{\frac{x}{4x^2 - 1}}{\frac{5}{2x - 1}}$$

$$\frac{5 + \frac{x}{3}}{\frac{4}{x} - \frac{1}{2x}}$$

$$\frac{\frac{16}{x^2 - 16}}{\frac{2}{x + 4} - \frac{2}{x - 4}}$$

$$\frac{x^{-2}}{x^{-2} - y^{-2}}$$

$$\frac{-5x^{-1} - 3y^{-1}}{7x^{-2} + 4y^{-2}}$$

$$\frac{(x + 7)^{-1} + (x - 7)^{-1}}{(x^2 - 49)^{-1}}$$