

# Complex Fractions

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A complex fraction is a fraction that has fractions in the numerator and/or the denominator.

Directions: Simplify the following fraction.

$$1. \frac{\frac{21x^4}{8y}}{\frac{7x^3}{16y^2}}$$

$$2. \frac{\frac{x^2 - 5x + 6}{10x + 5}}{\frac{4 - x^2}{6x + 3}}$$

## Single Fractions:

Change the division to multiplication. Reduce.

$$3. \frac{\frac{3}{x} - \frac{1}{y}}{\frac{6}{5x^3y}}$$

## Multiple Fractions:

1. Find the LCD of **all** the fractions.
2. Multiply **every** term by the LCD.
3. Reduce

$$4. \frac{\frac{1}{5} - \frac{1}{7x}}{\frac{2}{5} - \frac{1}{14xy}}$$

$$5. \frac{2 - \frac{7}{3x} - \frac{10}{3x^2}}{4 - \frac{8}{3x} - \frac{5}{x^2}}$$

**Multiple Fractions:**

1. Find the LCD of **all** the fractions.

2. Multiply **every** term by the LCD.

3. Reduce

$$6. \frac{\frac{2}{x} + \frac{1}{y}}{x + 3}$$

$$7. \frac{\frac{5+h}{3+h} - \frac{5}{3}}{h}$$