

Practice Exercises

Simplify the following complex rational expressions.

$$1. \quad \frac{\frac{1}{x} - \frac{1}{y}}{\frac{1}{x^2} + \frac{1}{y^2}}$$

$$2. \quad \frac{\frac{x-y}{x+y} - \frac{y}{x}}{\frac{x}{y} + \frac{x-y}{x+y}}$$

$$4. \quad \frac{\frac{a}{a-b} + \frac{a}{a+b}}{\frac{b}{a-b} + \frac{a}{a+b}}$$

$$3. \quad \frac{1 + \frac{2}{x}}{1 + \frac{2}{x^2}}$$

$$5. \quad \frac{4 - \frac{4}{y^2}}{2 + \frac{2}{y}}$$

Problem Set

Simplify the following complex rational expressions.

$$1. \quad \frac{x + \frac{x}{y}}{1 + \frac{1}{y}}$$

$$3. \quad \frac{x + \frac{x}{y}}{y - \frac{y}{x}}$$

$$5. \quad \frac{\frac{y+1}{y}}{\frac{y-1}{2y}}$$

$$2. \quad \frac{1 + \frac{3x}{x+3}}{x + \frac{3x}{x-3}}$$

$$4. \quad \frac{\frac{1}{a-2} - \frac{3}{a-1}}{\frac{5}{a-2} + \frac{2}{a-1}}$$