

Simplifying Complex Fractions

Simplify each expression.

$$1) \frac{\frac{1}{x^2}}{\frac{y}{x}}$$

$$2) \frac{\frac{2a}{bc^2}}{\frac{4a^2}{b^2c}}$$

$$3) \frac{\frac{x+y}{xy}}{\frac{1}{x^2} - \frac{1}{y^2}}$$

$$4) \frac{\frac{4}{a} - \frac{4}{b}}{\frac{16}{a^2} - \frac{16}{b^2}}$$

$$5) \frac{1 - \frac{1}{x} - \frac{6}{x^2}}{1 + \frac{1}{x} - \frac{1}{x^2}}$$

$$6) \frac{1 + \frac{4}{y} - \frac{5}{y^2}}{1 + \frac{6}{y} + \frac{5}{y^2}}$$

$$7) \frac{\frac{6}{b^2} - \frac{1}{ab} - \frac{2}{a^2}}{\frac{3}{b^2} + \frac{4}{ab} - \frac{4}{a^2}}$$

$$8) \frac{\frac{m^2}{n} + \frac{n^2}{m}}{\frac{1}{n^2} - \frac{1}{mn} + \frac{1}{m^2}}$$

$$9) \frac{\frac{1}{x+1} - \frac{1}{x}}{\frac{x}{x+1} + \frac{1}{x}}$$

$$10) \frac{3 + \frac{x}{2y} + \frac{4y}{x}}{4 + \frac{x}{2y} + \frac{8y}{x}}$$

Answers to Simplifying Complex Fractions

$$1) \frac{1}{xy}$$

$$5) \frac{x-3}{x-1}$$

$$9) -\frac{1}{2x+1}$$

$$2) \frac{b}{2ac}$$

$$6) \frac{y-1}{y+1}$$

$$10) \frac{x+2y}{x+4y}$$

$$3) \frac{xy}{y-x}$$

$$7) \frac{2a+b}{a+2b}$$

$$4) \frac{ab}{4(b+a)}$$

$$8) \frac{m+n}{mn}$$