

Name :

Score : Date :

Complex Rational Expressions

Simplify each rational expression

1
$$\frac{\frac{6}{x-4}}{\frac{3}{x^2-16}}$$

2
$$\frac{\frac{2x}{27y^2}}{\frac{6x^2}{9}}$$

3
$$\frac{\frac{3}{x^2-16}}{\frac{1}{x+4}}$$

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

5
$$\frac{\frac{x}{y^2} + \frac{1}{y}}{\frac{y}{x^2} + \frac{1}{x}}$$

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

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Answers

$$\boxed{1} \quad \frac{\frac{6}{x-4}}{\frac{3}{x^2-16}}$$

$$\underline{\hspace{10em} 2(x+4) \hspace{10em}}$$

$$\boxed{2} \quad \frac{\frac{2x}{27y^2}}{\frac{6x^2}{9}}$$

$$\underline{\hspace{10em} \frac{1}{9xy^2} \hspace{10em}}$$

$$\boxed{3} \quad \frac{\frac{3}{x^2-16}}{\frac{1}{x+4}}$$

$$\underline{\hspace{10em} \frac{3}{x-4} \hspace{10em}}$$

$$\boxed{4} \quad \frac{1 - \frac{1}{x^2}}{1 - \frac{1}{x}}$$

$$\underline{\hspace{10em} \frac{x+1}{x} \hspace{10em}}$$

$$\boxed{5} \quad \frac{\frac{x}{y^2} + \frac{1}{y}}{\frac{y}{x^2} + \frac{1}{x}}$$

$$\underline{\hspace{10em} \frac{x^2}{y^2} \hspace{10em}}$$

$$\boxed{6} \quad \frac{\frac{1}{x} + \frac{1}{y}}{\frac{x}{y} - \frac{y}{x}}$$

$$\underline{\hspace{10em} \frac{1}{x-y} \hspace{10em}}$$