

Add & Subtract Rational Expressions 137

$$1. \frac{7}{12x} - \frac{5}{12x} = \frac{\cancel{2}^1}{\cancel{12}_6 x} = \frac{1}{6x}$$

$$2. \frac{2}{3x^2} + \frac{1}{3x^2} = \frac{\cancel{3}^1}{\cancel{3}_1 x^2} = \frac{1}{x^2}$$

$$3. \frac{2x^2}{x^2+1} + \frac{2}{x^2+1} = \frac{2x^2+2}{x^2+1} = \frac{\cancel{2}(x^2+1)}{\cancel{x^2+1}} = 2$$

$$4. \frac{3}{4x} - \frac{1}{7}$$

Common Denominator
 $28x$

$$\frac{3}{4x} \cdot \frac{7}{7} = \frac{21}{28x}$$

$$\frac{1}{7} \cdot \frac{4x}{4x} = \frac{4x}{28x}$$

$$\frac{21}{28x} - \frac{4x}{28x} = \frac{21-4x}{28x}$$

$$5. \frac{1}{3x^2} + \frac{x}{9x^2 - 12x}$$

$$6. \frac{x+1}{x^2+4x+4} - \frac{6}{x^2-4}$$