

Rational Expression Worksheet Review

Adding/Subtracting

Add or subtract these rational expressions. Show your common denominators and numerators on this sheet or separate paper. **FACTOR** denominators when possible.

1. $\frac{3}{8x} - \frac{1}{4} \frac{2x}{2x}$

LCD: $8x$

$$\frac{3}{8x} - \frac{2x}{8x} = \frac{3-2x}{8x}$$

3. $\frac{x}{12} - \frac{4x}{3x} \frac{4}{4}$

LCD: $12x$

$$\frac{7x}{12x} - \frac{16x}{12x} = \frac{-9x}{12x}$$

$$\frac{-3}{4}$$

5. $\frac{4}{x-7} + \frac{2x}{4x-28}$

$4(x-7)$

LCD: $4(x-7)$

$$\frac{20x}{4(x-7)} + \frac{2x}{4(x-7)} = \frac{22x}{4(x-7)}$$

$$\frac{11x}{2(x-7)}$$

2. $\frac{2}{6x-30} + \frac{7}{x-5} \frac{6}{6}$

$6(x-5)$

LCD: $6(x-5)$

$$\frac{2}{6(x-5)} + \frac{42}{6(x-5)} = \frac{44}{6(x-5)}$$

$$\frac{22}{3(x-5)}$$

4. $\frac{3}{y+3} + \frac{2y}{y^2+8x+15}$

$(y+5)(y+3)$

LCD: $(y+5)(y+3)$

$$\frac{3y+15}{3(y+5)} + \frac{2y}{(y+5)(y+3)} = \frac{5y+15}{(y+5)(y+3)}$$

$$\frac{5(y+3)}{(y+5)(y+3)} = \frac{5}{y+5}$$

6. $\frac{6}{y+8} - \frac{3y}{y^2+11x+24}$

$(y+3)(y+8)$

$(y+8)(y+3)$

LCD: $(y+8)(y+3)$

$$\frac{6y+18}{6(y+3)} - \frac{3y}{(y+8)(y+3)}$$

$$\frac{3y+18}{(y+3)(y+8)} = \frac{3(y+6)}{(y+3)(y+8)}$$