

Find each sum or difference.

1. $\frac{3}{2x^2 - 32} + \frac{7}{x^2 - 10x + 24} =$

2. $\frac{x}{x^2 - 4x - 21} - \frac{5x}{x^2 + 5x + 6} =$

3. Simplify. $\frac{\frac{6}{x^2}}{\frac{4}{x} - \frac{5}{y^2}} =$

ANSWERS

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1. $\frac{3}{2x^2 - 32} + \frac{7}{x^2 - 10x + 24} =$

$$\frac{(x-6)}{(x-6)} \cdot \frac{3}{2(x+4)(x-4)} + \frac{7}{(x-4)(x-6)} \cdot \frac{2(x+4)}{2(x+4)}$$

$$= \frac{3x - 18 + 14x + 56}{2(x+4)(x-4)(x-6)} = \boxed{\frac{17x + 38}{2(x+4)(x-4)(x-6)}}$$

2. $\frac{x}{x^2 - 4x - 21} - \frac{5x}{x^2 + 5x + 6} =$

$$\frac{(x+2)}{(x+2)} \cdot \frac{x}{(x-7)(x+3)} - \frac{5x}{(x+3)(x+2)} \cdot \frac{(x-7)}{(x-7)}$$

$$\frac{x^2 + 2x - 5x^2 + 35x}{(x+2)(x-7)(x+3)}$$

$$= \boxed{\frac{-4x^2 + 37x}{(x+2)(x-7)(x+3)}}$$

3. Simplify. $\frac{\frac{6}{x^2}}{\frac{4}{x} - \frac{5}{y^2}} = \frac{x^2 y^2}{x^2 y^2}$

LCD = $x^2 y^2$

$$= \boxed{\frac{6y^2}{4x^2 - 5x^2}}$$