

Find this sum:

$$\frac{6}{x^2 - 25} + \frac{7}{x^2 - 6x + 5}$$

$$\frac{(x-1) \cdot 6}{(x-1)(x+5)(x-5)} + \frac{7}{(x-1)(x-5)} \cdot \frac{(x+5)}{(x+5)}$$

$$\frac{6x-6+7x+35}{(x-1)(x+5)(x-5)} = \frac{13x+29}{(x-1)(x+5)(x-5)}$$

Find this sum:

$$\frac{2}{2x^2 + 6x} + \frac{9x}{4x^3 - 20x^2} + \frac{4}{x^2 - 2x - 15}$$

$$\frac{2x \cdot (x-5)}{2x \cdot (x-5)} \cdot \frac{2}{2x(x+3)} + \frac{9x}{4x^2(x-5)} \cdot \frac{(x+3)}{(x+3)} + \frac{4}{(x-5)(x+3)} \cdot \frac{4x^2}{4x^2}$$

$$\frac{4x^2 - 20x + 9x^2 + 27x + 16x^2}{4x^2(x-5)(x+3)}$$

$$\frac{29x^2 + 7x}{4x^2(x-5)(x+3)}$$

Find this difference:

$$\frac{3}{x^2 - 4} - \frac{5}{2x^2 + 4x}$$

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

$$\frac{6x - 5x + 10}{2x(x+2)} = \boxed{\frac{x+10}{2x(x+2)}}$$

Find this difference:

$$\frac{2x}{x^2 - 8x + 16} - \frac{x}{x^2 - x - 12}$$

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

$$\frac{2x^2 + 6x - x^2 + 4x}{(x-4)(x-4)(x+3)} = \boxed{\frac{x^2 + 10x}{(x-4)^2(x+3)}}$$

Find this sum:

when you factor the denominators you find that they have nothing in common. Therefore, the LCD is the product of the two given denominators.

$$\frac{x^2 - 2x - 8}{x^2 - 2x - 8} \cdot \frac{9}{x^2 + 12x + 36} + \frac{5}{x^2 - 2x - 8} \cdot \frac{x^2 + 12x + 36}{x^2 + 12x + 36}$$

$$= \frac{9x^2 - 18x - 72 + 5x^2 + 60x + 180}{(x^2 + 12x + 36)(x^2 - 2x - 8)}$$

$$= \frac{14x^2 + 42x + 108}{(x^2 + 12x + 36)(x^2 - 2x - 8)}$$

You can now finish Hwk #8

Hwk #8

Sec 9-5

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Problems 12, 14, 15, 21, 34, 37, 40