

Bellwork Alg 2A Wednesday, May 31, 2017

Find each sum or difference. No need to state restrictions on the variables.

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$$\frac{4}{2x^2 - x - 10} - \frac{9}{2x^2 - 8}$$

2.

$$\frac{6}{2x^3 + 8x^2 - 42x} + \frac{5x}{4x^4 - 24x^3 + 36x^2}$$

3.

$$\frac{4}{3x^3 - 3x} - \frac{3}{x^3 + 3x^2 + 2x} - \frac{5}{6x^4 + 6x^3 - 12x^2}$$

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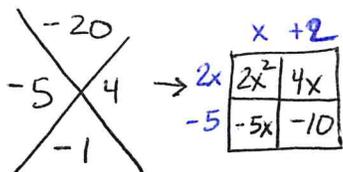
①

$$\frac{4}{2x^2 - x - 10} - \frac{9}{2x^2 - 8} = \frac{2(x-2)}{2(x-2)} \cdot \frac{4}{(x+2)(2x-5)} - \frac{9}{2(x+2)(x-2)} \cdot \frac{(2x-2)}{(2x-2)}$$

$$= \frac{8x - 16}{2(x+2)(2x-5)} - \frac{18x - 18}{2(x+2)(2x-5)}$$

$$= \frac{8x - 16 - 18x + 18}{2(x+2)(2x-5)}$$

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



②

$$\frac{6}{2x^3 + 8x^2 - 42x} + \frac{5x}{4x^4 - 24x^3 + 36x^2} =$$

$$\frac{-2}{+7} \cdot \frac{4}{4} \cdot 2x(x^2 + 4x - 21) = 2x(x+7)(x-3)$$

$$4x^2(x^2 - 6x + 9) = 4x^2(x-3)(x-3)$$

$$= \frac{2x(x-3)}{2x(x-3)} \cdot \frac{12x(x-3)}{2x(x+7)(x-3)} + \frac{5x}{4x^2(x-3)(x-3)} \cdot \frac{(x+7)}{(x+7)}$$

$$= \frac{12x^2 - 36x + 5x^2 + 35x}{4x^2(x+7)(x-3)^2} = \frac{17x^2 - x}{4x^2(x+7)(x-3)^2}$$

3

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

$$3x(x^2 - 1)$$

$$3x(x+1)(x-1)$$

$$\frac{3}{x^3 + 3x^2 + 2x}$$

$$x(x^2 + 3x + 2)$$

$$x(x+2)(x+1)$$

$$\frac{5}{6x^4 + 6x^3 - 12x^2}$$

$$6x^2(x^2 + x - 2)$$

$$6x^2(x+2)(x-1)$$

$$\frac{8x(x+2)}{2x(x+2)} \cdot \frac{4}{3x(x+1)(x-1)}$$

$$\frac{18x(x-1)}{3} \cdot \frac{6x(x-1)}{6x(x-1)} \cdot \frac{1}{x(x+2)(x+1)}$$

$$\frac{5}{6x^2(x+2)(x-1)} \cdot \frac{(x+1)}{(x+1)}$$

$$= \frac{8x^2 + 16x - 18x^2 + 18x - 5x - 5}{6x^2(x+2)(x \pm 1)}$$

$$= \frac{-10x^2 + 29x - 5}{6x^2(x+2)(x \pm 1)}$$