

Bellwork Hon Alg 2 Monday, February 27, 2017

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

1.

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

2.

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

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Answers

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

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

$$\begin{array}{r} -20 \\ 5 \times 4 \\ -1 \end{array} \quad \begin{array}{r} x+2 \\ 2x \mid 2x^2 \quad 4x \\ -5 \mid -5x \quad -10 \end{array}$$

$$= \frac{8x-16}{2(x+2)(x-2)(2x-5)} - \frac{18x-45}{2(x+2)(x-2)(2x-5)}$$

$$= \frac{-10x+29}{2(x+2)(x-2)(2x-5)}$$

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

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

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

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

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