

Bellwork Alg 2 Friday, December 13, 2019

Simplify each Complex Rational Expression.

1.
$$\frac{\frac{5}{3c^4d} - \frac{4}{9d^2}}{\frac{7}{6c^3} + \frac{11}{12cd^3}}$$

2.
$$\frac{\frac{8}{x^2 + 5x + 6}}{\frac{6}{x^2 - 2x - 15} - \frac{11}{x^2 - 3x - 10}}$$

Simplify each Complex Rational Expression.

1. $\frac{\frac{5}{3c^4d} - \frac{4}{9d^2}}{\frac{7}{6c^3} + \frac{11}{12cd^3}}$ $\cdot \frac{36c^4d^3}{36c^4d^3}$ $\text{LCD} = 36c^4d^3$

$$\frac{60d^2 - 16c^4d}{42cd^3 + 33c^3}$$

2. $\frac{\frac{8}{x^2 + 5x + 6}}{\frac{6}{x^2 - 2x - 15} - \frac{11}{x^2 - 3x - 10}} = \frac{\frac{8}{(x+2)(x+3)}}{\frac{6}{(x-5)(x+3)} - \frac{11}{(x-5)(x+2)}}$

$\text{LCD} = (x-5)(x+3)(x+2)$

$$= \frac{\frac{8}{(x+2)(x+3)} \cdot \frac{(x-5)(x+3)(x+2)}{(x-5)(x+3)(x+2)}}{\frac{6}{(x-5)(x+3)} - \frac{11}{(x-5)(x+2)} \cdot \frac{(x-5)(x+3)(x+2)}{(x-5)(x+3)(x+2)}}$$

$$= \frac{8(x-5)}{6(x+2) - 11(x+3)} = \frac{8(x-5)}{6x+12-11x-33} = \frac{8(x-5)}{-5x-21}$$