

NAME: _____

P.I. A.A.17: Add or subtract fractional expressions with monomial or like binomial denominators

1. Explain how to find the least common denominator of two rational expressions. Give an example.

2. Explain how to add or subtract rational expressions with different denominators.

3. How is finding the LCD of $\frac{2}{3}$ and $\frac{1}{2}$ like finding the LCD of $\frac{2}{3x}$ and $\frac{1}{2x^2}$?

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4. Write two rational expressions with an LCD of $4x$.

5. Write two rational expressions with the sum of $\frac{3}{x^2}$.

6. a. Write two rational expressions that have a difference of $\frac{x+2}{x-3}$.
b. Write two different rational expressions with the same difference.

Answers may vary. Sample: Factor each denominator. Find a common denominator that includes every numerical and variable factor of the two denominators. Example: $\frac{1}{2x}$ and $\frac{1}{3x^2}$ have a least common

[1] denominator of $6x^2$.

[2] Rewrite the expressions with a common denominator. Then add or subtract the numerators.

You find the prime factorization of both denominators to find the LCD. The only difference is that each denominator of the second pair of expressions contains a variable.

[4] Answers may vary. Sample: $\frac{1}{4x}, \frac{1}{2x}$

[5] Answers may vary. Sample: $\frac{1}{x^2} + \frac{2}{x^2}$

[6] Answers may vary. Sample: a. $\frac{x}{x-3} - \frac{(-2)}{x-3}$; b. $\frac{2x^2}{2x^2-6x} - \frac{(-4x)}{2x^2-6x}$
