

Adding & Subtracting Rational Functions Class Work

Objective: You will be able to add and subtract rational functions.

★ Quick Recall:

Perform each operation.

$$1. \frac{1}{3} + \frac{6}{7} = \frac{7}{21} + \frac{18}{21} = \frac{25}{21}$$

$$2. \frac{4}{5} - \frac{2}{3}$$

$$3. \frac{2}{5} + \frac{3}{8}$$

$$4. \frac{1}{9} - \frac{5}{9} = \frac{1-5}{9} = \frac{-4}{9}$$

☒ Guided Example A: Adding Rational Functions

*Be sure your final solutions are simplified where possible, and include any restrictions on the variables.

Add: $\frac{3x-4}{x^2y-16y} + \frac{2}{xy-4y}$

Common denominator
Combine numerators
Keep same denom.
 $y \neq 0$
 $x \neq 4, -4$

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

$$\frac{3x-4+2x+8}{y(x+4)(x-4)} = \frac{5x+4}{y(x+4)(x-4)}$$

☒ Guided Example B: Subtracting Rational Functions

*Be sure your final solutions are simplified where possible, and include any restrictions on the variables.

Subtract: $\frac{3p-1}{p^2+6p-16} - \frac{p+7}{p^2+7p-8}$

$$\frac{3p-1(p-1)}{(p+8)(p-2)} - \frac{p+7(p-2)}{(p+8)(p-1)(p-2)}$$

$$\frac{(3p^2-4p+1) - (p^2+5p-14)}{(p+8)(p-1)(p-2)}$$

$p \neq -8, 1, 2$
Don't forget to distribute negative!

$$\frac{2p^2-9p+15}{(p+8)(p-1)(p-2)}$$

Practice: See next page(s)

*Write any important hints/tips/reminders for adding and subtracting rational expressions.

Homework: ? pages 507-509 #11-21 odd and s1-s9 odd

Homework Solutions: