

Steps for Adding/Subtracting Rational Expressions with Like Denominators:

- 1) Add/subtract the numerators.
- 2) Factor numerator and denominator, if you can.
- 3) Cancel matching factors from top and bottom.
- 4) Multiply what's left. (Leave what's on top in the top and what's on the bottom in the bottom.)

$$\frac{3x}{x^2 + 3x - 10} - \frac{6}{x^2 + 3x - 10}$$

Example 1:

$$\frac{3}{x} + \frac{4}{x} = \frac{7}{x}$$

Example 2:

$$\frac{12x}{3x^2} - \frac{3x}{3x^2} = \frac{9x}{3x^2} = \frac{\overset{3}{\cancel{9}}x}{\cancel{3}x\cancel{x}} = \frac{3}{x}$$

Example 3:

$$\frac{x+1}{x-1} + \frac{-x+3}{x-1} = \boxed{\frac{4}{x-1}}$$

$$\begin{aligned} & (x+1) - (x-3) \\ & x+1 - x+3 \end{aligned}$$

Example 4:

$$\frac{x-4}{x^2-4} + \frac{2}{x^2-4} = \frac{x-2}{x^2-4} = \frac{\cancel{x-2}}{\cancel{(x-2)}(x+2)} = \frac{1}{x+2}$$

Example 5:

$$\frac{3x}{3x^2-x-2} + \frac{-2x+1}{3x^2-x-2} = \frac{x-1}{3x^2-x-2} = \frac{\cancel{x-1}}{\cancel{(x-1)}(3x+2)} = \frac{1}{3x+2}$$

AC B
 $\begin{array}{r} -6 \quad -1 \\ -3 \quad 2 \end{array}$
 $(3x^2-3x)+(2x-2)$
 $3x(x-1)+2(x-1)$

Example 6:

$$\frac{3x+8}{x^2-2x-24} + \frac{4}{x^2-2x-24}$$

$$\frac{3x+12}{x^2-2x-24} = \frac{\cancel{3(x+4)}}{(x-6)\cancel{(x+4)}} = \frac{3}{x-6}$$

AC B
 $\begin{array}{r} -24 \quad -2 \\ -6 \quad 4 \end{array}$

Conclusion

1. When adding rationals with like denominators, do we also add the denominators?

NO

2. When we subtract an expression with more than one term, like $x-3$, what must you do?

Add the Opposite

3. Questions???

Assignment: Add/Subtract Day 1 Wkst

Algebra II Warm Up 3-2-15



1. $\sqrt[3]{125x^4}$

2. $\left(\frac{f}{g}\right)(x)$ tells you what x is
tells you to divide

$$\frac{x^2 - 1}{x - 1}$$

3. Solve for y and graph both.

$$x^2 - y = -3 \quad 2x^2 - y = -2$$

4. Plug in each answer for x and see which one works.

5. Graph and find maximum point. Look for the price which is the x-value.

6. Plug in values for M(t), M_0 , and t.

$$M(t) = M_0 \cdot 10^{-kt}$$

Then plug in answer choices for k and see which one gives you 40.

7. Connect the dots and see which type of graph it looks like.



8. Graph all the systems and see where the corners of the triangle are.