Unit 3-Lesson 4(a)-Solving Rational Functions

First, we will look to solve these problems algebraically.

- Here is an example that we will do together using two different methods

$$\frac{7}{x+2} = \frac{6}{x-5}$$

- Best way to solve a rational equations is to _____
  - This can be done by multiplying each side of the equations by the _____
  - What is the LCD? _____

It is **VERY** important that you check your answers!!!!!

- The other method of solving rational equations is cross-multiplication
  - This will only work if it is a fractions = a fraction

Example 2:

$$\frac{x+1}{3x+6} = \frac{5x}{6} + \frac{1}{x-2}$$

- Find the LCD * Hint: Factor the denominator
  - LCD=_____

Try on your own:

1. $\frac{4}{x-1} = \frac{x+1}{12}$

2. $\frac{4x-3}{5} - \frac{4-2x}{3} = 1$

3. $\frac{10}{x^2-1} + \frac{2x-5}{x-1} = \frac{2x+5}{x+1}$

Unit 3-Lesson 4(a)-Classwork/Homework

1. $\frac{2x-3}{6} = \frac{2x}{3} + \frac{1}{2}$ x=_____

2. $\frac{4x}{3x-2} + \frac{2x}{3x+2} = 2$ x=_____

3. $\frac{2x-3}{7} - \frac{x}{2} = \frac{x+3}{14}$ x=_____

4. $\frac{3}{5x} + \frac{7}{2x} = 1$ x=_____

5. $\frac{4}{x^2-8x+12} = \frac{x}{x-2} + \frac{1}{x-6}$ x=_____

6. $\frac{5x}{x+2} + \frac{2}{x} = 5$ x=_____