Notes Section 7.5 Solving Rational Equations

I can solve a rational equation by finding common denominators.
I can solve a rational equation by factoring the denominators.

Example 1:

Solve a rational equation by cross-multiplying.

$$\frac{20}{3x-5} = \frac{5}{x-2}$$

Checkpoint Solve the equation by cross multiplying.

1. $\frac{3}{x+2} = \frac{6}{3x+8}$	2. $\frac{-6}{x+2} = \frac{-12}{x-1}$

Example 2:

Solve a rational equation with one solution.

Solve: $\frac{8}{x} + \frac{11}{3} = \frac{-14}{x}$

Example 3:

Solve a rational equation with two solutions.

Solve: $\frac{m+2}{m-1} + \frac{4}{m-5} = \frac{6}{m^2-6m+5}$

The LCD is _____

Checkpoint Solve the equation by using the LCD.

3. $\frac{11}{4} - \frac{3}{x} = \frac{5}{2x}$	4. $1 + \frac{4}{x+2} = \frac{9}{x}$

Example 4:

Check for extraneous solutions.

$$\frac{8x^2}{x^2-9} - \frac{4x}{x+3} = \frac{2}{x-3}$$

The LCD is _____

Checkpoint Solve the equation by using the LCD. Check for extraneous solutions.

5. $\frac{2m}{m-1} + \frac{m-5}{m^2-1} = 1$