Solving Rational Equations Notes   **Name:**

Steps:
1. Find the Least Common Denominator (LCD or LCM)
2. Multiply each term in the equation by the Least Common Denominator
3. Simplify
4. Solve for x
5. Check for **extraneous solutions**. Extraneous solutions are results that can not be verified by the original equation. None of the denominators in any of the fractions can equal 0!!!
6. Box your answer.

$$\frac{3}{4x} = \frac{5}{2x} - \frac{7}{4}$$

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

$$\frac{x - 4}{x + 6} = \frac{2x + 3}{2x - 1}$$

$$\frac{1}{x + 4} + \frac{x}{x - 4} = \frac{-8}{x^2 - 16}$$

Solving Rational Equations Homework: **Solve each equation. Remember to check for extraneous solutions.**

1) $\dfrac{k+4}{4} + \dfrac{k-1}{4} = \dfrac{k+4}{4k}$

2) $\dfrac{1}{2m^2} = \dfrac{1}{m} - \dfrac{1}{2}$

3) $\dfrac{n^2 - n - 6}{n^2} - \dfrac{2n+12}{n} = \dfrac{n-6}{2n}$

4) $\dfrac{3x^2 + 24x + 48}{x^2} + \dfrac{x-6}{2x^2} = \dfrac{1}{x^2}$

5) $\dfrac{k^2 + 2k - 8}{3k^3} = \dfrac{1}{3k^2} + \dfrac{1}{k^2}$

6) $\dfrac{k}{3} - \dfrac{1}{3k} = \dfrac{1}{k}$

7) $\dfrac{x-4}{6x} + \dfrac{x^2 - 3x - 10}{6x} = \dfrac{x-1}{6}$

8) $\dfrac{1}{x^2} = \dfrac{x-1}{x} + \dfrac{1}{x}$