Precalculus Name: _____

Solving Equations in One Variable

When MULTIPLYING BY x, or some expression involving an x (this includes "squaring both sides") then it is possible to find a solution that does NOT truly solve the equation when the answer is substituted back in. These solutions are referred to as _____ solutions.

Ex1) Solve:

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

$$(\_\_\_)\left(x+\frac{3}{x}\right)=(4)(\_\_\_)$$

STEP #1: Identify the L.C.D.

STEP #2: Multiply both sides by L.C.D.

(remember to DISTRIBUTE!!)

STEP #3: Simplify & Solve ☺

STEP #4: Check your answers !!!!!

Ex2) $x+\frac{4}{x-4}=0$

Ex3) $\frac{2x}{x-1}+\frac{1}{x-3}=\frac{2}{x^2-4x+3}$

Ex 4) $\frac{2x+2}{2x+5}-\frac{x-4}{3x-1}=\frac{5x^2+18}{6x^2+13x-5}$

Ex5) $\frac{t+4}{t}+\frac{-4}{t-4}=\frac{-16}{t^2-4t}$

Now You Try:

6) $\frac{5x}{x-2}=7+\frac{10}{x-2}$

7) $\frac{4x+1}{x+1}=\frac{12}{x^2-1}+3$

8) $\frac{1}{x-2}+\frac{x-3}{7-x}=\frac{x+1}{-x^2+9x-14}$