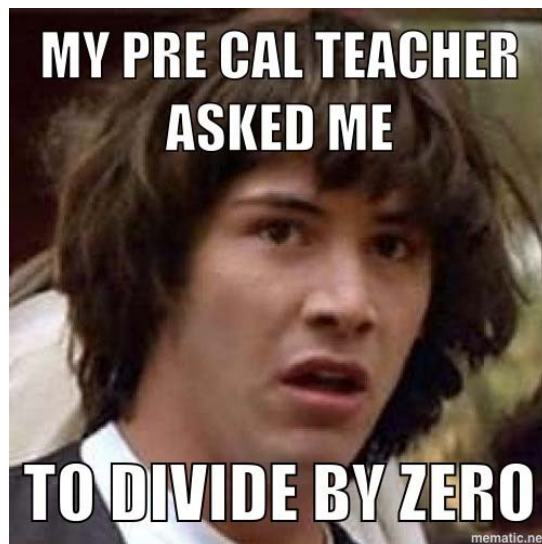


Friday, September 30, 2016

HW Check - worksheet

2.7 Solving Rational Equations

HW: 1st day of 2.7 (from Thursday)



2.7 Solving Rational Equations

① $\left[x + \frac{3}{x} = 4 \right] \times$ multiply by the LCD
Lowest/Least Common Denominator

$$x^2 + 3 = 4x$$

$$x^2 - 4x + 3 = 0$$

$$(x - 1)(x - 3) = 0$$

$x = 1, 3$ Check for Extraneous Solutions
 $x \neq 0$ (Check domain)

② $\left[\frac{2x}{x-1} + \frac{1}{x-3} = \frac{2}{x^2 - 4x + 3} \right] (x-1)(x-3)$ LCD

$$2x(x-3) + 1(x-1) = 2$$

$$2x^2 - 6x + x - 1 = 2$$

$$2x^2 - 5x - 3 = 0$$

$$(2x + 1)(x - 3) = 0$$

$x = \frac{-1}{2}, 3$ Extraneous Sol: $x \neq 1, 3$

③ $\left[\frac{x-3}{x} + \frac{3}{x+2} + \frac{6}{x^2+2x} = 0 \right] x(x+2)$ LCD

$$\textcircled{3} \left[\frac{x-3}{x} + \frac{3}{x+2} + \frac{6}{x^2+2x} = 0 \right] \text{ multiply}$$

$$(x-3)(x+2) + 3x + 6 = 0$$

$$x^2 - x - 6 + 3x + 6 = 0$$

$$x^2 + 2x = 0$$

$$x(x+2) = 0$$

$$x = 0, -2 \quad \text{Check for Extraneous Sol: } x \neq 0, -2$$

No Solution!