Lame example to make the point. But remember the point:

Find LCD

write everything over the LCD

Decide if you can ditch the LCD.

Aside for the future

$\frac{(x-2)}{x+1} > 1$

Clearing Fractions doesn't cut it for inequalities

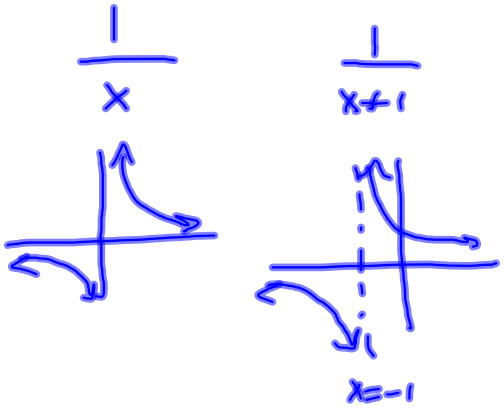
$\frac{x-2}{x+1} - 1 > 0$

$\frac{x-2}{x+1} - \frac{1}{1}\cdot\frac{x+1}{x+1} > 0$

$\frac{x-2-(x+1)}{x+1} > 0$

$\frac{x-2-x-1}{x+1} > 0$

$\frac{-3}{x+1} > 0$



Determine whether the given number is a solution to the equation following it.

$-5, (x-2)^2 = 49$

$(-5-2)^2 \stackrel{?}{=} 49$

$(-7)^2 \stackrel{?}{=} 49$

$49 = 49$

$3\frac{1}{2}$

$3.5 = \frac{7}{2}$

$(-7)(-7) =$

$(-1)(7)(-1)(7)$

$= (-1)(-1)(7)(7)$

$= (1)(49)$

$= 49$

Solve. Don't forget to check!

$-2x + 10 = 28$

$-10 = -10$

$-2x = 18$

$x = -\frac{18}{2} = -9 = x$

$\frac{-2x}{-2} = \frac{18}{-2}$

$x = -9$

why not combine the steps?

$\frac{2}{7}x = 10$

$-2x < 18$

$x > \frac{18}{-2}$

$x > -9$

Solve the following equation. Then identify the equation as an identity, an inconsistent equation, or a conditional equation.

$3x + 4x = 6x$

$3x + 4x = 6x$

$\frac{7x}{x} = \frac{6x}{x}$

True if $x = 6$.

$7 = 6$!?

Bad Move.

$7x = 6x$

$-6x = -6x$

$x = 0$

Solve the following equation. Then identify the equation as an identity, an inconsistent equation, or a conditional equation.

$\frac{9x}{x} = 9$

LCD: x

$\frac{9x}{x} = \frac{9 \cdot x}{x} = \frac{9x}{x}$

$\frac{9x}{x} = \frac{9x}{x} \Rightarrow 9x = 9x$

$\vdots$

$0 = 0$ is true, no matter WHAT x is!

We have an issue with the domain of the problem

$x \neq 0$. Can't divide by zero!

$x \in \mathbb{R}$

Soln Set $= \{ x \mid x \neq 0 \} = \mathbb{R} \setminus \{0\}$

Set-builder

{club member | membership requirements}

$= (-\infty, 0) \cup (0, \infty)$

Solve the following equation involving rational expressions. Then identify the equation as an identity, an inconsistent equation, or a conditional equation.

$$\frac{1}{w-2} - \frac{1}{3w-6} = \frac{2}{3w-6}$$

LCD = $3(w-2)$

$\frac{1}{2} \cdot \frac{5}{5} + \frac{1}{10}$

$\frac{A}{B} = \frac{C}{B} \Rightarrow A = C$

$3(w-2)$

$$\frac{1}{w-2} \cdot \frac{3}{3} - \frac{1}{3(w-2)} = \frac{2}{3(w-2)}$$

$$\frac{3}{3(w-2)} - \frac{1}{3(w-2)} = \frac{2}{3(w-2)}$$

Ditch Denominator.

$$\frac{3-1}{LCD} = \frac{2}{LCD} \Rightarrow 3-1 = 2$$

$2 = 2$

Trivial Truth.

Equation is an identity on its domain.

Soln Set

$\{w \mid w \neq 2\} = \mathbb{R} \setminus \{2\}$

Solve the following equation involving rational expressions. Then identify the equation as an identity, an inconsistent equation, or a conditional equation.

$\frac{3y}{y+3} = 8 - \frac{9}{y+3}$

LCD = $y+3$

$\frac{3y}{y+3} = \frac{8(y+3)}{y+3} - \frac{9}{y+3}$

$3y = 8y + 24 - 9$

$3y = 8y + 15$

$-8y = -8y$

$-5y = 15$

$y = -3$

whole class caught me.

$\frac{15}{-3} = -3$

Why ditch the denominator?

$\frac{x-3}{x^3+17} = \frac{5x+2}{x^3+17}$ ← It hurts.

$\Rightarrow x-3 = 5x+2$, etc.

Sec	Probs
1.1	1 – 8, 11, 15, 21, 27, 29, 35, 37, 41, 45, 57, 49, 51, 57, 63, 65, 69, 73, 75, 83, 85, 93, 104, 105, 107, 109
1.2	1 – 5, 8, 11, 13, 16, 21, 27, 29, 32, 33, 37, 39, 41, 42, 43, 45, 57, 50, 51, 53, 55, 57, 59, 63, 65, 69, 74, 79, 81, 85, 86

Use a calculator to solve the following equation.

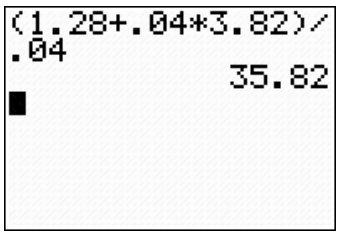
$0.04(x - 3.82) = 1.28$

Write Much
Think Little.

$.04x - (.04)(3.82) = 1.28$

$.04x = 1.28 + (.04)(3.82)$

$x = \dfrac{1.28 + (.04)(3.82)}{.04}$



$\Rightarrow \boxed{x = 35.82}$

$x \approx 35.8$

$\sqrt{3} \approx 1.732$

Use a calculator to solve the equation.

$\dfrac{x}{0.290} + \dfrac{x}{0.265} = 6$

$\frac{.265}{.265} \cdot \frac{x}{.290} + \frac{x}{.265} \cdot \frac{.290}{.290} = 6$

$LCD = (.290)(.265)$

$6 \cdot \frac{(.290)(.265)}{(.290)(.265)}$

$\dfrac{.265x + .290x}{LCD} = \dfrac{6(.290)(.265)}{LCD}$

$.265x + .290x = 6(.290)(.265)$

$x(.265 + .290) = 6(.290)(.265)$

$x = \dfrac{6(.290)(.265)}{.265 + .290}$

Aug 21-10:59 AM

Absolute Value Equations and Inequalities.

Solve the following absolute value equation. Use the basic absolute value equations.

$|x| = 17$

Aug 21-9:24 AM

One with Fractions.

Solve the following absolute value equation.

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

Reduce to the previous case...

Solve the following absolute value equation.

$$3|y+3|-15=0$$

Pseudo-quadratic

Solve the following equation.

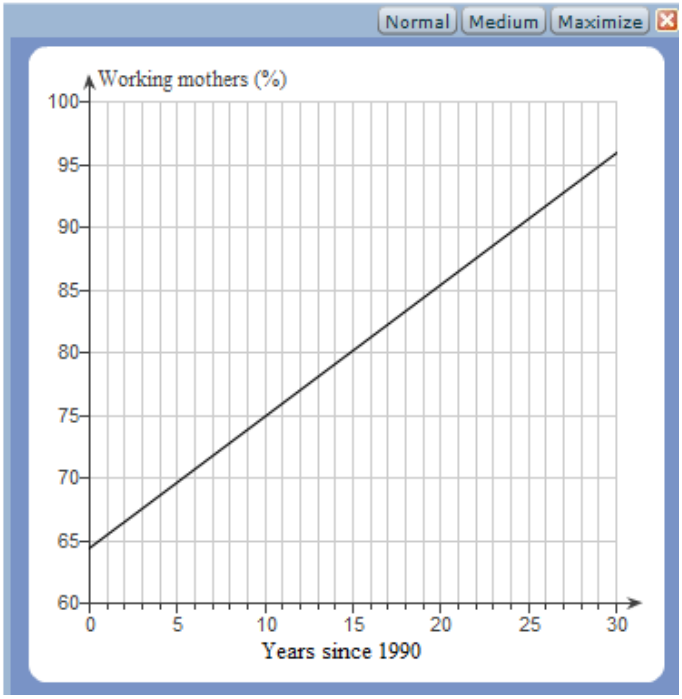
$(x+3)^2 = x^2 + 6$

Solve the following equation.

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

Aug 21-9:27 AM

a) Use the accompanying graph to estimate the year in which 75% of t
were in the work force.



A surfboard shaper has to limit the cost of development and production to $276 per surfboard. He has already spent $58,760 on equipment for the boards. The development and production costs are $146 per board. The cost per board is $\frac{146x + 58,760}{x}$ dollars. Determine the number of boards that must be sold to limit the final cost per board to $276.

How many boards must be sold to limit the cost per board to $276?

Not sure about this one. I *think* that most of the numbers here are just showing you what went into the cost-per-board function. Our focus is just on the cost per board. With the tools we have, our best bet might be just to build a table. We basically want that function to be less than $276.

Aug 21-9:32 AM