Chapter 2.1 Notes:

The **solution set** for an equation is the set of all numbers that, when used in place of the variable, make the equation true.

Addition Property of Equality: if A=B, then A+C=B+C

Multiplication Property of Equality: if A=B, then AC=BC

Identities and Equations with No Solution:

False Statements:

$2(3x-4) = 3 + 6x$

$6x - 8 = 3 + 6x$ or $-8 = 3$

* any number you substitute for x will lead to a false statement

True Statements:

$-15 + 3x = 3(x - 5)$

$-15 + 3x = 3x - 15$ or $-15 = -15$

* all real numbers are solutions since it's an identity, left side will always equal right side of equation.

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

$\frac{12}{3}x-\frac{2}{3}+\frac{2}{3}=4$

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

$x=1$

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

$12\left(\frac{-x}{6} + \frac{2}{3}\right) = \left(\frac{1}{4}\right)12$

$\frac{-12x}{6} + \frac{24}{3} = \frac{12}{4}$

$-2x + 8 = 3$

$-2x = -5 \quad x = \frac{5}{2}$

True Statements:

$7x-14=7x-14$

$-7x \quad -7x$

$-14=-14$

↳ solution leads to # = #

ex. 0=0

↳ solution = all real numbers

False Statement:

↳ solution leads to 3=-8 or #'s not matching