Math 104Q

Solving Linear Equations and Inequalities

☺ To Solve a Linear Equation do:

1. Clear the equation of fractions by multiplying both sides of the equal sign by the LCD.

2. Eliminate parentheses using the distributive law.

3. Combine like terms.

4. Use additive properties to put the variable on one side of the equal sign, and numbers on the other side of the equal sign.

5. Use multiplication properties to isolate the variable.

(**6.** Check the proposed solution in the original equation.)

☺ To solve for **one variable** in terms of the **other variable** in a linear equation with two variables, you do the above 1 - 5 steps, treating the **other variable** as if it was a number.

☺ To solve an absolute value equation: **| ✡ | = Number**, you first eliminate the absolute value by converting the equation into two linear equations with no absolute values:

✡ = Number or **✡ = – Number**.

You then solve each of these two equations separately doing the above 1 - 5 steps.

☺ To solve a linear inequality you do the above 1 - 5 steps, remembering that the only operation that differs is: **multiplying or dividing both sides of an inequality by a negative number reverses the inequality**.