Solving ANY Multi-Step Equation

Very important to remember these two things:
   You MUST follow these steps IN ORDER!!!!
   If a step does not apply, move on to the next, but do not jump ahead unless you check each step.

1)	**Distribute:**	distributive is used to eliminate parenthesis
2)	**Combine:**	combine like terms ON THE <u>SAME SIDE</u> OF THE EQUAL SIGN. **Remember:** if they are on the same side, you <u>DO NOT</u> do the opposite operation, you <u>COMBINE</u> them.
3)	**Eliminate:**	if you have a variable on both sides of the equal sign, you must eliminate one by doing the <u>opposite</u> operation. Hint: most of the time it makes sense to eliminate the smaller of the two. You will not have to deal with as many negatives if you do.

4) When you go through the first three steps successfully, you will be left with a one-step or two-step equation to be solved. Solve it!

5) Check your answer in the original equation.

Examples:

1. $5(2x + 6) = 8x + 50$	2. $16 - 2(3 - 2x) = 46$	3. $2(y - 6) = 4(y - 4) - y$
4. $2x + 3x + 4 = -6$	5. $8x = 30 + 5x$	6. $-3(8 + 3h) = 5h + 4$
7. $x - (43 - x) = 5$	8. $10 - x - 3x = 7x - 23$	9. $9x = 44 - 2x$
10. $8x - (5x - 2) = 14$	11. $3a + (2a - 5) = 13 - 2(a + 2)$	12. $\frac{3}{4}(8x - 12) = 7x - 11$