**8.4: Solving Equations with variables on both sides**

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| Drills |
| 1. Solve for x:              2. Write an expression for:   * 4 times a number decreased by 8  * 3 times the sum of a number and 5 |

So far we have been solving equations by “unwrapping” to isolate the variable. Today we will apply these techniques if there is a variable on **both sides of the equation**.



In order to solve this type of equation, we must \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



on one side of the equation.



Ex. 1: Solve and check 



Ex. 2: Solve and check the following equations.



a)  b) 



c)  d) 



e)  f) 



In general:



1. Simplify your equation first on each side of the equation.



1. Group your like terms together on one side of the equation.



1. Follow backwards BEDMAS to isolate the variable.
2. CHECK your solution!

Ex. 3 (CHALLENGE!) Solve and check – follow the steps, you can do it!



**PRACTICE:** Pg. 326 # 4, 6, 8, 10, 14, 15