Name: Date: Period:

1) To begin to solve a word problem, you must:

<u>DEFINE your variable</u> / <u>IDENTIFY the unknown</u>

Decide what are you trying to solve for?

Use the statement,
LET x = _____
(99% of the time, you will LET x = whatever comes at the end of the sentence)

2) Once you have your first "LET" statement, determine if other "LET" statements are needed. PLEASE NOTE, other "LET" statements will **<u>NOT</u>** be "LET x ="!!! The other "LET" statements will be based on your first "LET" statement.

For example:

Comes at the end of the sentence
First "LET" Statement

Bobby is 8 years older than Troy. Twice Bobby's age increased by 3 times Troy's age is 81. Find the ages of both boys.

Bobby's age is compared to Troy's age, which is what you are letting x =

Since you need 2 "LET" statements:

Let x = Troy's age (comes at the end of the sentence)
Let x + 8 = Bobby's age (based on Troy's age being x)

3) It is time to create your equation. The key to this is reading the problem very

S – L – O – W – L – Y!!!!!

Each word or phrase is a clue to help you translate the words into a mathematical equation. Use the previous notes to help you translate words into mathematical symbols.

Using the above example, the equation is: $2(x + 8) + 3x = 81$

4) **FINALLY, EVERY WORD PROBLEM ENDS WITH A STATEMENT**!!! By doing this, you are forced to look back and answer the specific question being asked.

Once you solve the above equation, you get x = 13, but your **<u>FINAL</u>** answer is: **Troy's age is 13 and Bobby's age is 21.**

Use the following template to solve word problems.

<u>Let Statements</u>	**<u>Equation</u>**	**<u>Solve</u>**	**<u>Statement/Sentence</u>**
• Determine # of "Let" statements needed • Write them beginning with Let x = _____	• Set up equation USING the "Let" statements just written • Start with your EQUAL sign	Solve the equation using • Distribute • Combine • Eliminate	Substitute the value for x back into the "Let" statements to write your sentence answering the question being asked

Other Helpful Hints:

- Use parenthesis when necessary (it is important to know when you must distribute).
- If the problem says one side exceeds the other by a certain number, be careful which side you are adding to. Remember you add to the smaller side to set them equal.
- For ratio problems, break up the ratio and put "x" next to each number.