Writing Word Problems from Equations

- The student applies mathematical process standards to use equations and inequalities to represent situations. The student is expected to:

Expressions, equations, and relationships.

6.9C

- write corresponding real-world problems given one-variable, one-step equations or inequalities

- write a corresponding real-world problem given a one-variable, two-step equation or inequality

7.10C

8.8B

- write a corresponding real-world problem when given a one-variable equation or inequality with variables on both sides of the equal sign using rational number coefficients and constants

My teacher's learning goals for me are that I will be able to:

- determine if the equation represents a proportional or non-proportional relationship.
- analyze the equation and identify the y-intercept, *b*
  - decide on a real-world situation that will represent the y-intercept.
- analyze the equation and identify the constant of proportionality, *k*
  - decide on a real-world situation that will represent the k-value.
- Write a real-world problem that represents the equation.
- Solve the equation to calculate the value of the variable.

I will master the **learning goals** for **Writing Word Problems** with at least _____ mastery by:

1) **Asking** questions when I'm not sure of something and **answering** questions when I know the answer.

2) _____

_____

3) _____

_____

How to make up real-world situations and how to identify the constant of proportionality, *k*, from an equation:	**How to make up real-world situations and how to identify the y-intercept, *b*, from an equation:**
In an equation, the constant of proportionality, *k*, is the value being multiplied with the x in y = kx. When making up a word problem, remember the k-value is represented by the constant rate of change. It is most commonly the amount that is going to continue repeating and is often associated with the words: "per" or "each."	In an equation, the y-intercept, *b*, is the number being added or subtracted in y = x + b. When making up a word problem, keep in mind that the y-intercept is the one time occurrence which may be a fee, deposit, initial or beginning amount they already had prior to starting, etc…

Steps for Writing Word Problems from Equations

Step 1:

Determine if the equation represents a proportional or non-proportional relationship.

Proportional

Identify the value of k, and decide on a per or each unit to write about using the given amount.

Non-Proportional

Decide on a per or each unit to write about using the given rate of change of 1.

Non-Proportional

Identify the value of the y-intercept, *b*, and decide whether it is a fee, deposit, one-time occurence, etc. to write about.

I do... you follow along and process **Writing Real-World Problems from Equations**

A. $8x = 24$

B. $x + 50 = 425$

C. $600 = 50x$

D. $120 = 201 - x$