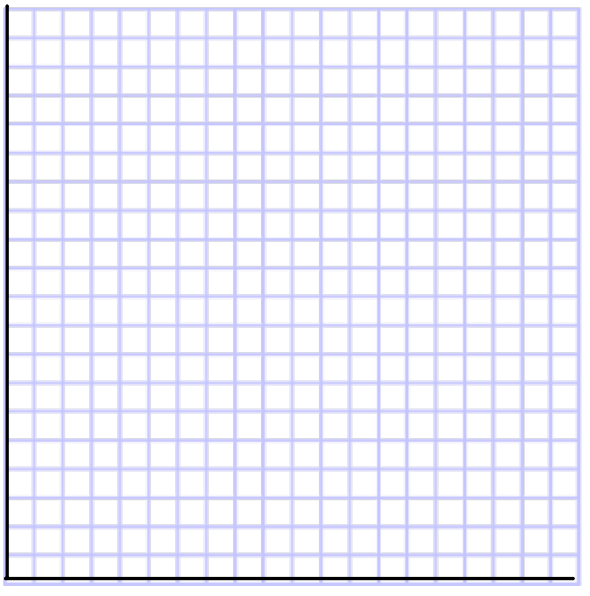
Thursday, February 6, 2020

1.1 Representing Linear Relations

Bellwork:

Chloe has a job in a clothing store. She gets paid a weekly salary of $400 plus 4.5% commission on her sales.

1. Create three different representations for this relationship. If you get stuck, talk to the people you sit near!
2. Determine Chloe's earnings if she sold $2600 in clothing last week.



Review: The Characteristics of a Linear Relation

- First differences are _____.
- The equation can be written in _____ form or _____ form.
- The graph of a linear relation is always a _____.
- A line with a positive slope _____ to the right.
- A line with a negative slope _____ to the right.
- The slope of a horizontal line is _____, and the slope of a vertical line is _____.

Practice Problems:

1) Show that the relationship represented in the table is linear.

x	y
-4	12
-3	9
-2	6
-1	3
0	0

2) Rewrite 2x - 5y + 3 = 0 in slope - y - intercept form.

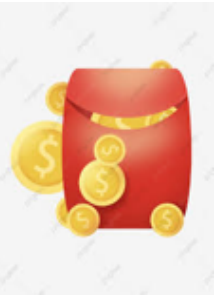
Are these examples of direct or partial variation? Explain.

Writing Equations from Words

- You MUST assign variables before you can write an equation. Remember that variables represent something that can change, so DO NOT let x represent a known value!
- Once you have assigned the appropriate number of variables (usually two), watch for words that tell you what operations to use (ie/ sum/total is add; less/difference is subtract)
- After you write your equation, look at it to see if it makes sense! Replace your variable with words or try a number.

Practice Problems:

Define variables and create equations for each of the following.



1) Sydney has $5.75 made up of nickels and dimes. Write an equation to model her total amount of money.

2) A rental car company charges $35 per day plus $0.35 per kilometre driven. Write an equation for the daily cost.

Odds and Ends with Linear Relations

- how do we determine if an ordered pair satisfies (is a solution to) a linear equation?

  ex/ Determine if (-1, 3) and (2, 5) satisfy $2y = 10 + 4x$.

- Once you have written an equation with two unknowns, you can solve for one unknown by subbing in a given value. Be careful to place it in the appropriate place!

  ex/ If Sydney had 30 dimes, how many nickels did she have?