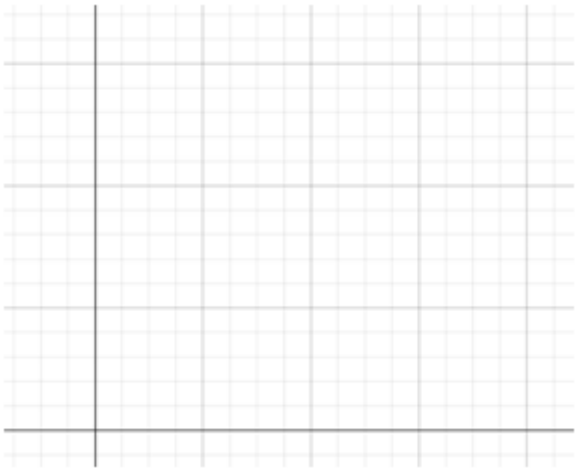
Lesson 1

Historical Debt Outstanding - Annual 2000 - 2012

Date	Dollar Amount
09/30/2012	16,066,241,407,385.89
09/30/2011	14,790,340,328,557.15
09/30/2010	13,561,623,030,891.79
09/30/2009	11,909,829,003,511.75
09/30/2008	10,024,724,896,912.49
09/30/2007	9,007,653,372,262.48
09/30/2006	8,506,973,899,215.23
09/30/2005	7,932,709,661,723.50
09/30/2004	7,379,052,696,330.32
09/30/2003	6,783,231,062,743.62
09/30/2002	6,228,235,965,597.16
09/30/2001	5,807,463,412,200.06
09/30/2000	5,674,178,209,886.86



1) What numbers would go along the *x*-axis?

2) What numbers would go along the *y*-axis?

3) How am I going to count so I can graph this quickly? Would it be worthy to count by ones when graphing the dollar amount?

4) What may be lost by creating a quick graph of this?

5) Will the *x* & *y* axis have the same scale?

6) Is the graph *increasing* or *decreasing*?

Define these terms

Domain:

Range:

Independent and Dependant variables as it relates to domain and range.

Getting Ready for a Pool Party!

Sylvia has a small pool full of water that needs to be emptied and cleaned, then refilled for a pool party. During the process of getting the pool ready, Sylvia did all of the following activities, each during a different time interval.

Remove water with a single bucket	Filled the pool with a hose (same rate as emptying the pool)
Drained water with a hose (same rate as filling the the pool)	Cleaned the empty pool
Sylvia and her friends removed the water with 3 buckets	Took a break

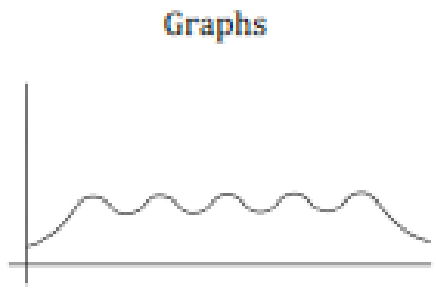
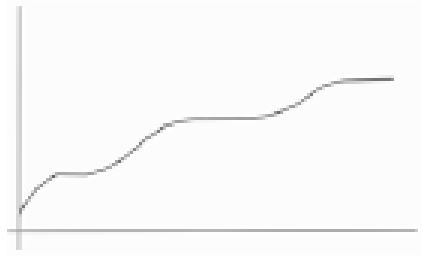
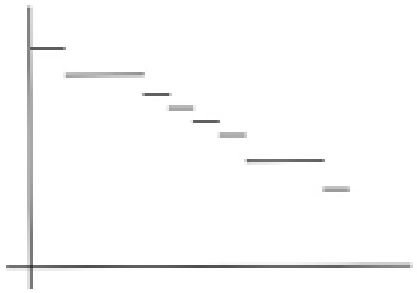
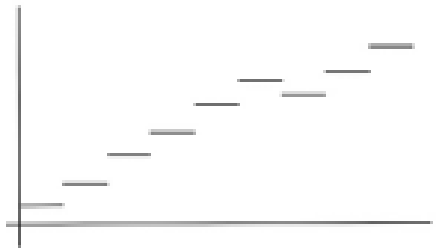
1) Sketch a possible graph showing the height of the water level in the pool over time. Be sure to include all of activities Sylvia did to prepare the pool for the party. Remember that only one activity happened at a time. Think carefully about how each section of your graph will look, labeling where each activity occurs.

2) Create a story connecting Sylvia's process for emptying, cleaning, and then filling the pool to the graph you have created. Do your best to use appropriate math vocabulary.

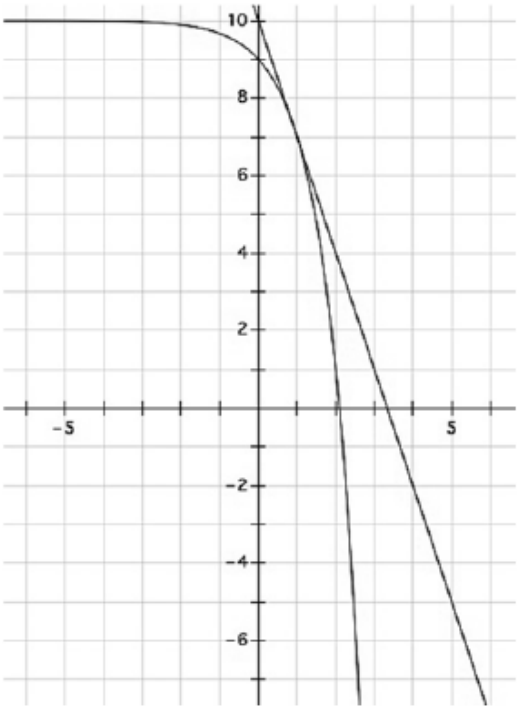
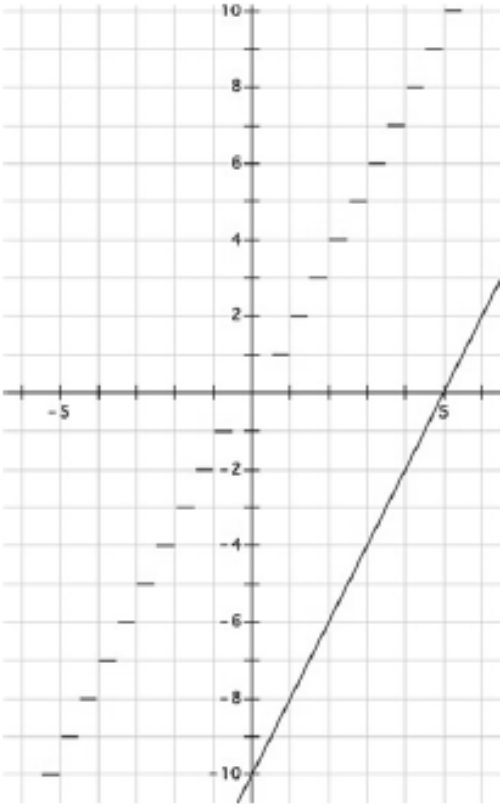
3) Does your graph create a function? Why or why not? Would all graphs created for this situation be a function?

Topic: Describing attributes of a function based on the graphical representation.

For each graph given, match it to the contextual description that fits best. Then label the independent and dependent axis with the proper variables..

1)_____ Justify your answer:		a. The amount of money in a savings account where regular deposits and some withdrawals are made.
2)_____ Justify your answer:		b. The temperature of the oven on a day that mom bakes several batches of cookies
3)_____ Justify your answer:		c. The amount of gasoline on hand at the gas station before a tanker delivers more.
4)_____ Justify your answer:		d. The number of watermelons available for sale at the farmer's market on Thursday
5)_____ Justify your answer:		e. The amount of mileage recorded on the odometer of a delivery truck over a time period

Given the pair of graphs on each coordinate grid, create a list of similarities the two graphs share and a list of differences. (Consider attributes like continuous, discrete, increasing, decreasing, linear, exponential, restrictions on domain or range, etc.)

6)		Similarities: Differences:
7)		Similarities: Differences: