Which graph could **model** each of the following situations? Be ready to explain why.

1. The total number of tires for different numbers of cars in a parking lot.

2. How much money you will be paid for working different amounts of hours at Roche Brothers.

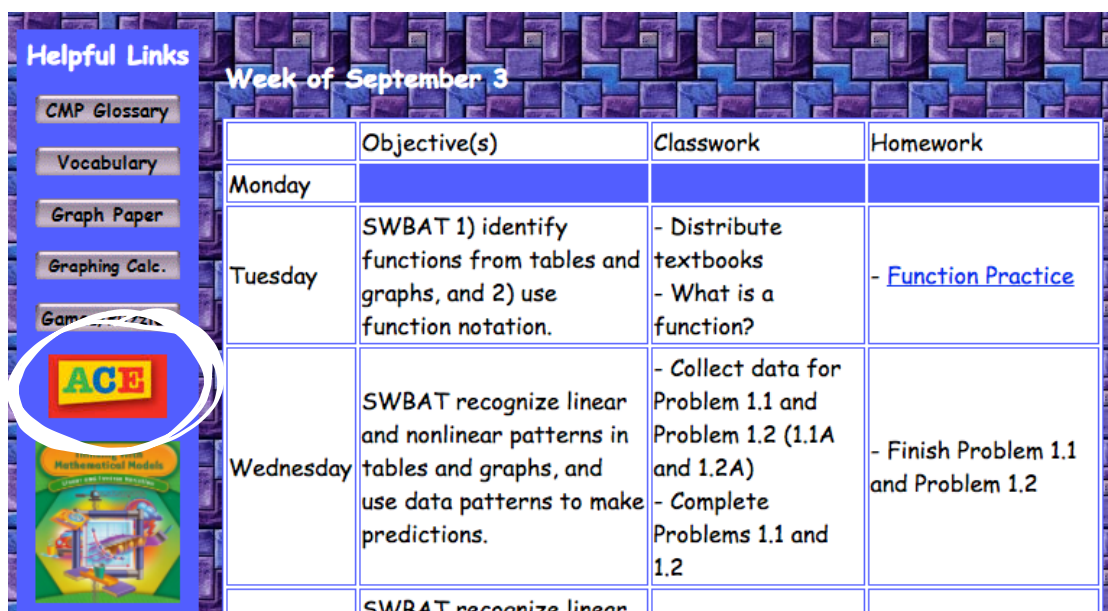A — Money ($) vs Time (hrs)

B — # of tires vs # cars
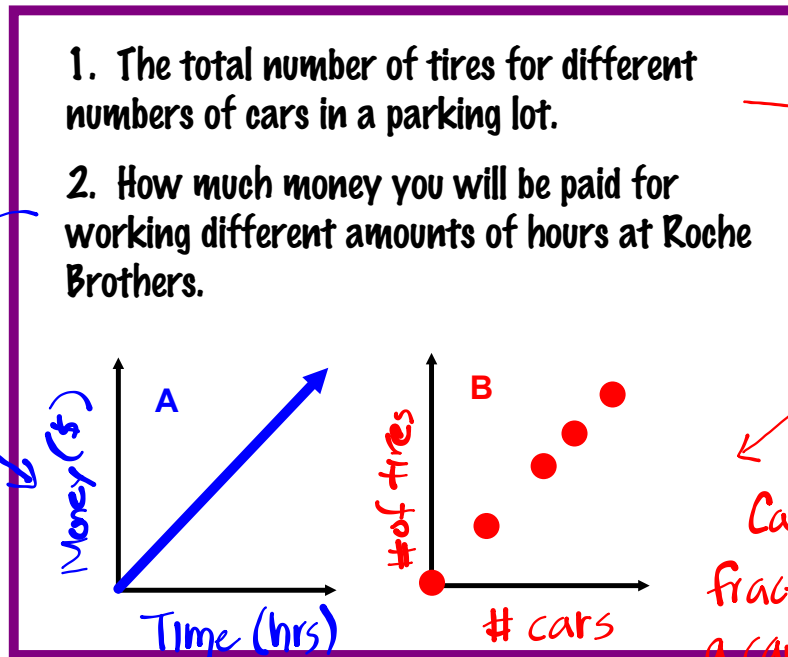
Can't have a fraction of either a car or a tire

○ We can break hours into minutes

○ We can break $ into cents

ALWAYS CHECK UNITS

How to check your homework.

Answer keys can be found on line for all ACE questions.

Helpful Links
- CMP Glossary
- Vocabulary
- Graph Paper
- Graphing Calc.
- Gam...
- ACE
- Mathematical Models

Week of September 3

	Objective(s)	Classwork	Homework
Monday			
Tuesday	SWBAT 1) identify functions from tables and graphs, and 2) use function notation.	- Distribute textbooks - What is a function?	- Function Practice
Wednesday	SWBAT recognize linear and nonlinear patterns in tables and graphs, and use data patterns to make predictions.	- Collect data for Problem 1.1 and Problem 1.2 (1.1A and 1.2A) - Complete Problems 1.1 and 1.2	- Finish Problem 1.1 and Problem 1.2
	SWBAT recognize linear		

2. A group of students conducted the bridge-thickness experiment with construction paper. The table below contains their results.

Bridge-Thickness Experiment

Number of Layers	1	2	3	4	5	6
Breaking Weight (pennies)	12	20	29	42	52	61

[handwritten: 7 | 8, 79; checkmarks with 8, 9, 13, 10, 9, 9, 9]

a. Make a graph of the (number of layers, breaking weight) data. Describe the relationship between breaking weight and number of layers.

b. Suppose it is possible to use half-layers of construction paper. What breaking weight would you predict for a bridge 3.5 layers thick? Explain.

c. Predict the breaking weight for a construction-paper bridge of 8 layers. Explain how you made your prediction.

1.2 Bridge Length and Strength

In the last problem you tested the strength of some paper bridges. You found that bridges with more layers are stronger than bridges with fewer layers.

- How do you think the length and strength of a bridge are related?

- Are longer bridges stronger or weaker than shorter bridges?

Set up your notebook:

1.2 Bridge Length and Strength   Date 9/7

Length of bridge (inches)	4	6	8	9	11
Breaking Weight (# of pennies)					

Instructions:

- Fold the paper strips to make bridges as shown below.

- Start with the 4-inch bridge. Suspend the bridge between the two books as you did before. The bridge should overlap each book by 1 inch. Place the paper cup in the center of the bridge.

- Put pennies into the cup, one at a time, until the bridge collapses. Record the number of pennies you added to the cup. As in the first experiment, this number is the breaking weight of the bridge.

- Repeat the experiment to find breaking weights for the other bridges.

Ⓐ Make a graph of your data.

Ⓑ Describe the relationship between bridge length and breaking weight. How is that relationship shown by patterns in your table and graph?

Ⓒ Use your data to predict the breaking weights for bridges of lengths 3, 5, 10, and 12 inches. Explain how you made your predictions.

Ⓓ Compare your data from this experiment to the data from the experiment on bridges with different numbers of layers. How is the relationship between the number of layers in a bridge and its breaking weight similar to the relationship between bridge length and breaking weight? How is it different?

COLLECT DATA FIRST!!

Before you begin to graph:

What will go on the x-axis (x-variable):

What will go on the y-axis (y-variable):

What is the range of your x values?

What is the range of your y values?

What are easy intervals?

What are easy intervals?

How long does the x-axis need to be?
(Divide the highest number by the interval size)

How long does the y-axis need to be?
(Divide the highest number by the interval size)

We want to spread our data out as much as possible in our graph.

Homework

Finish Problem 1.2