**8.4 The Graphs of Sinusoidal Functions**

**By the end of the lesson you will be able to:**

1. Identify characteristics of equations of sinusoidal functions.

Today we will examine how change the equation of a sinusoidal function changes the graph of the function.

A. Graph

Now, on the same screen, graph and

Make a sketch of graph you see.

How does changing the value in effect the graph?



B. Graph

Now, on the same axes graph and

Make a sketch of graph you see.



How does changing the value in effect the graph?

C. Graph

Now, on the same axes graph and

Make a sketch of graph you see.



How does changing the value in

 effect the graph?

D. Graph

Now, on the same axes graph and

Make a sketch of graph you see.



How does changing the value in

 effect the graph?

A sinusoidal function of the form:

has the characteristics:

* is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:
* is the number of cycles in 360° or 2.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is or

* indicates the horizontal translation that has been applied to the graph.
* gives the equation of the midline,

where

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ value is

* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ value is

**Example 1**

Consider the function:

a) Without graphing, describe characteristics of the function: amplitude, equation of the midline, range, period and horizontal translation.

b) Verify your description by graphing the function.

**Assignment**:

