GSE PreCalculus Name_____

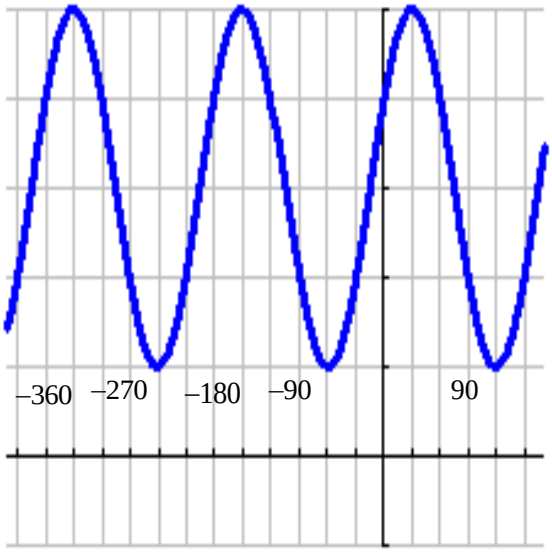
Notes- Applications of Trig Functions

To find the equation given a graph you are going backwards from graphing.

Reminder: How do you find each when graphing $f(x) = a\sin b(x-c)+d$ or $f(x) = a\cos b(x-c)+d$?

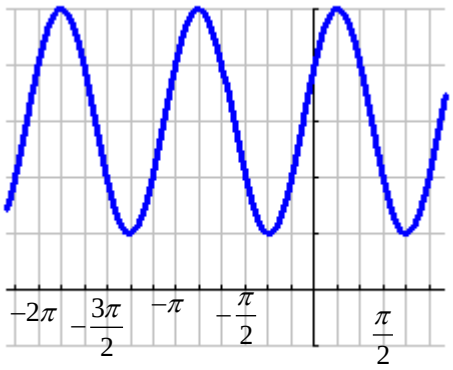
Example 1: Find a +cos(x) function (degrees):
Amplitude (a):
Period (b):

HS (c):
VS (d):



Example 2: Find a +cos(x) function (radians)
Amplitude (a):
Period (b):

HS (c):
VS (d):



GSE PreCalculus Name_____

Notes- Applications of Trig Functions

Ferris Wheel Problem As you ride the Ferris wheel, your distance from the ground varies sinusoidally with time. Let t be the number of seconds that have elapsed since the Ferris wheel started. You find that it takes you 2 seconds to reach the top, 25 feet above the ground, and that the wheel makes a revolution once every 10 seconds. The diameter of the wheel is 20 feet.

a. Sketch a graph of this sinusoid.
b. Write an equation of the sinusoid.
   i. Predict your height above the ground when: $t = 3$, $t = 6$, $t = 9$