Alg II CC (Unit 5, Lesson 1) Name: _____ Date: _____ Pd: _____

Analyzing Trig Functions

	Amplitude	Trig Function	Omega, ω	X or Θ	Φ	Vertical Shift
Y=						
	(Distance from Midline)	sin or cos	$\omega=\frac{2\pi}{Pd}$	(VARIABLE)	Φ= -(PS)(ω)	(MIDLINE)

Write the equation of the trigonometric function with the given characteristics.

1. Sine Function; Amplitude=3; Period=2π; Phase Shift is LEFT 3 units; Midline at y=0

2. Cosine Function; Amplitude=1; Period=π; Phase Shift is RIGHT π units; Midline at y=4

3. Cosine Function; Minimum value = -4; Maximum value = 4; Vertical Reflection; Period=4π; No Phase Shift

4. Sine Function; Minimum value = -2; Maximum value = 10; Period=8π; Phase Shift is LEFT 4π

5. Secant Function; Amplitude is 0.5; Period= $\frac{2\pi}{3}$; Vertical Shift Up 3.5 units; Phase Shift Right π

6. Cosecant Function; Local Minimum is 5; Midline is 3; Period is 5π; No Phase Shift

Analyze Real-World Sinusoidal Functions.

Read the given statements and answer the questions that follow.

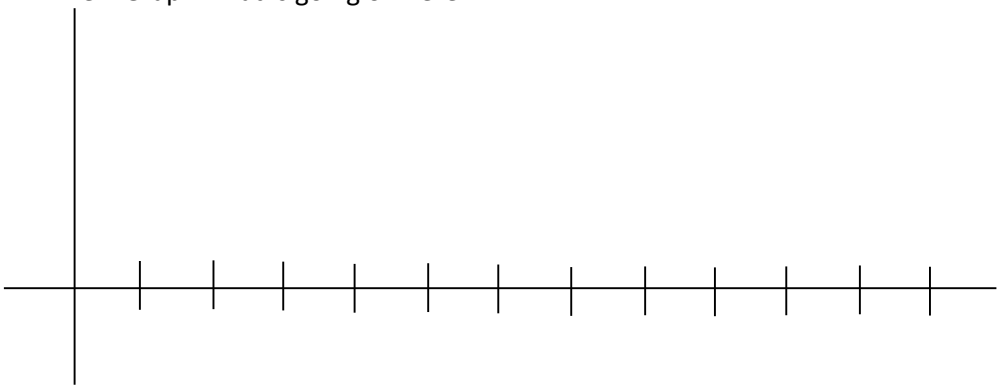
7. The amount of daylight (hrs) in London, England can be represented by the equation $d = -3.8\cos\left(\frac{\pi}{6}m - 0.5\right) + 11$ (where m=1 represents the middle of January, m=2 represents the middle of February, etc.)
   a. What is the maximum amount of daylight in London?

   b. What is the minimum amount of daylight in London?

   c. When does the maximum amount of daylight occur? (Find Month)

   d. When does the minimum daylight occur? (Find Month)

   e. Graph what is going on here.



8. When Leeford Castillo is stressed out, his heart beats at 120 beats per minute and his blood pressure is 140 systolic and 90 diastolic. (Note: Frequency is bpm, Period is the reciprocal of Frequency)
   a. Draw a picture of what is happening.