Precalculus Honors

Trigonometric Functions and Equations

LEARNING PLAN

(Chapter 2)

Name: _____

Date: _____

Period:____

G___

Skill/Understanding:	Review/Practice Problems
Trigonometric Functions ❑ I can identify the graphs of y = sin(x), y = cos(x) and y = tan(x) (sine, cosine and tangent parent functions). ❑ I can sketch the graphs of y = sin(x), y = cos(x) and tan(x) ❑ I can identify the period, amplitude, orientation, and midline of the sine and cosine parent functions. ❑ I understand the connection between points on a unit circle and points on the parent functions of sine, cosine and tangent.	Sine and Cosine Graph Notes in G-Section
Transformations of Trigonometric Functions ❑ Given the graph of a sine or cosine transformation, I can identify the period, amplitude, orientation, midline, and vertical or horizontal shift. ❑ Given the equation of a sine or cosine transformation, I can identify the period, amplitude, orientation, midline, and vertical or horizontal shift. ❑ I can transform sine and cosine functions by changing the value of **a** to create specific changes in *amplitude* or *orientation*. ❑ I can transform sine and cosine functions by changing the value of **h** to create specific changes in *horizontal shift*. ❑ I can transform sine and cosine functions by changing the value of **k** to create specific changes in *midline* or *vertical shift*. ❑ I can transform sine and cosine functions by changing the value of **b** to create a specific change in the *period*.	2-99, 2-113, 2-129, 2-156, and CL 2-169. 3-44, 3-82, 3-129, and CL 3-144.
Inverse Trigonometric Functions ❑ I can graph the inverse functions for sine, cosine and tangent. ❑ I can restrict the domain of the functions sine, cosine and tangent so that they are invertible.	Lesson 2.3.2 and 2.3.3.
Trigonometric Equations ❑ I can solve trigonometric equations for the specified domain. ❑ I understand why it is possible to have an infinite amount of solutions to a trigonometric equation. ❑ I know how to represent infinite solutions for trigonometric equations.	2-140 and 2-153. 3-14, 3-31, 3-127, 3-138, and CL 3-145.

PRACTICE PROBLEMS (complete on a separate piece of paper)

1. Given, y = sin(x),
    a. State the domain and range.
    b. Identify the midline, period and amplitude.
    c. Graph two complete cycles. Make sure to scale and key points should be visible.

2. Given y = cos(x),
    a. State the domain and range.
    b. Identify the midline, period and amplitude.
    c. Graph two complete cycles. Make sure to scale and key points should be visible.

3. Given y = 2sin(4x) - 1,
    a. Identify the midline, period, amplitude and horizontal shift.
    b. Graph two complete cycles. Make sure to scale and key points should be visible.

4. Given $y = -4\cos(x - \frac{\pi}{4}) - 1$,
    a. Identify the midline, period and amplitude and horizontal shift.
    b. Graph two complete cycles. Make sure to scale and key points should be visible.

5. solve each of the following equations over the given domains.
    a. $2\sin(x) - \sqrt{3} = 0$ for $0 \leq x < 2\pi$
    b. $4\sin^2(x) - 3 = 0$ for all x