

# Pre-Calc/ Col. Prep. Math Lesson Plans Week 4

**Teacher:** Ngoma Botumile A

**Subject:** Pre Calc. & Col. Prep. Math

**Week of:** 09/12-9/16/2016

**Grade:** 11 & 12

**Day/Date:** Tuesday,09/13/ 2016

**Unit 1: Values of Trigonometric Functions**

Students determine the relationships among the unit circle, trigonometric functions, and trigonometric values when given measures in degrees, minutes, and seconds or radians based on the unit circle.

**Today's Objective:** Students will evaluate trig functions, and use unit circle to evaluate angles in all four quadrants for both clockwise and counterclockwise directions.

**D. E. A. R: ( Period B1 only)**

- 1) As required school wide, points will be lost for lack of participation.
- 2) No tardies during D.E.A.R.

**Warm-up:** From warm-up table down load

**Agenda:**

1. Warm-up Solution
2. Evaluate trig Functions
3. Special right angles
4. Downloads week 4
5. Trig Videos
6. Saturday tutorials 9:30 am to 12:30pm

**Homework:** HOW#4 and POW #4 Due Friday.

**Evaluation/Exit Ticket:** 5-Minutes Summary of what you have learned today. (1-minutes discussion and 4-minutes writing at level-0 voices)

**TEKS:**

Process Standards, PC.1A, PC.1B, PC.1C, PC.1D, PC.1E, PC.1F, PC.1G, PC.2P, PC.4A, PC.4B, PC.4C, PC.4E. (List of TEKS details is posted above the board.)

**ELPS:** : C.3D, C.3H, C.3E, C.5G, C.1E, & C.2H ( ELPS detail descriptions are posted in Class)

**Vocabulary:**

Minutes  
Trig identity  
Special angles  
Unit circle Attributes

**Essential Understanding/Guiding Questions:**

1. How does the six trig functions relate?
2. What are attributes of a Unit circle?
3. Even and odd functions pp 80.

**Day/Date:** Thursday: 9/15/2016

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**Today's Objective:** Students will evaluate trig functions, and use unit circle to evaluate angles in all four quadrants for both clockwise and counterclockwise directions.

**D. E. A. R. ( Period B1 only)**

- 1) As required school wide, points will be lost for lack of participation.
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**Warm-up:** From warm-up table down load

**Agenda:**

1. Warm-up Solution
2. Odd and even functions pp 80, 398, 466
3. Negative angles directions
4. Review for Friday major Quiz
5. Saturday tutorials 9:30 am to 12:30pm

**Homework:** HOW#4 and POW #4. Due Friday

**Evaluation/Exit Ticket:** 5-Minutes Summary of what you have learned today. (1-minutes discussion and 4-minutes writing at level-0 voices)

**TEKS:**

Process Standards, PC.1A, PC.1B, PC.1C, PC.1D, PC.1E, PC.1F, PC.1G, PC.2P, PC.4A, PC.4B, PC.4C, PC.4E. (List of TEKS details is posted above the board.)

**ELPS:** : C.3D, C.3H, C.3E, C.5G, C.1E, & C.2H ( ELPS detail descriptions are posted in Class)

**Vocabulary:**

Trigonometric Functions inverse verses reciprocals.  
Even function  
Odd function.

**Essential Understanding/Guiding Questions:**

1. How does a trig function's reciprocal differ from it inverse?
2. What is an odd Function?
3. How does degrees and  $\pi$ , relate?

**Day/Date:** Friday, 09/16/2016

**Unit 1: Values of Trigonometric Functions**

Students determine the relationships among the unit circle, trigonometric functions, and trigonometric values when given measures in degrees, minutes, and seconds or radians based on the unit circle.

**Today's Objective:** Students will take their first major quiz, involving the unit circle and the previous quizzes.

**Warm-up:** Start major quiz.

**Agenda:**

1. Warm-up none
2. Friday major Quiz
3. Saturday tutorials 9:30 am to 12:30pm

**Homework:** Study and complete downloads Monday by Monday 7:30 am

**Evaluation/Exit Ticket:** 5-Minutes  
Summary of what you have learned today.  
(1-minutes discussion and 4-minutes writing at level-0 voices)

**TEKS:**

Process Standards, PC.1A, PC.1B, PC.1C, PC.1D, PC.1E, PC.1F, PC.1G, PC.2P, PC.4A, PC.4B, PC.4C, PC.4E. (List of TEKS details is posted above the board.)

**ELPS:** : C.3D, C.3H, C.3E, C.5G, C.1E, & C.2H ( ELPS detail descriptions are posted in Class)

**Vocabulary:**

**Essential Understanding/Guiding Questions:**

## **Pre-Calc. TEKS**

**Mathematical Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:

**PC.1A** Apply mathematics to problems arising in everyday life, society, and the workplace.

**PC.1B** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

**PC.1C** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

**PC.1D** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.

**PC.1E** Create and use representations to organize, record, and communicate mathematical ideas.

**PC.1F** Analyze mathematical relationships to connect and communicate mathematical ideas.

**PC.1G** Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

**PC.2P** Determine the values of the trigonometric functions at the special angles and relate them in mathematical and real-world problems.

**PC.4A** Determine the relationship between the unit circle and the definition of a periodic function to evaluate trigonometric functions in mathematical and real-world problems.

**PC.4B** Describe the relationship between degree and radian measure on the unit circle.

**PC.4C** Represent angles in radians or degrees based on the concept of rotation and find the measure of reference angles and angles in standard position.

**PC.4E** Determine the value of trigonometric ratios of angles and solve problems involving trigonometric ratios in mathematical and real-world problems.