MTH 28 LECTURE NOTES (Ojakian)

Topic 20: Trigonometric Functions Using Triangles

OUTLINE

(References: 5.4 in PreCalculus Book)

1. Definitions of trigonometric functions

2. Special angles

1. <u>Recall Pythagorean Theorem</u>

2. <u>Definitions of Trigonometric Functions</u>

   (a) sin, cos, tan, csc, sec, and cot

   (b)

   PROBLEM 1. *Consider the right triangle whose 2 legs have length 3 and 4. Find all 6 trig functions of the angle that includes the side of length 4.*

   PROBLEM 2. *Consider the right triangle with a hypotenuse of length 10 and one leg of length 5 Find all 6 trig functions of the angle that includes the side of length 5.*

   PROBLEM 3. *For angles between 0 and 90 degrees, what values are possible for the following trigonometric functions: sin, csc, cos, sec*

3. <u>Special Angles</u>

   Evaluate trig functions for angles: 30, 45, 60.

   (a) For 45 degree angle, draw a square and cut it in half diagonally.

   (b) For 30 and 60, draw an equilateral triangle and but it in half.