MTH 28.5 LECTURE NOTES (Ojakian)

Topic 33: Trigonometric Functions Using Triangles

OUTLINE

(References: 5.4 in PreCalculus Book)

1. Definitions of trigonometric functions
2. Special angles

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1. Recall Pythagorean Theorem
2. Definitions of Trigonometric Functions
   (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. Special Angles
   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.