Math 2312 – Pre-Calculus **_Assignment_** **Name: _____**

Professor: Fred Khoury

***Directions*:** Show your work whenever possible: a correct answer is worth 0 point without any supporting work.

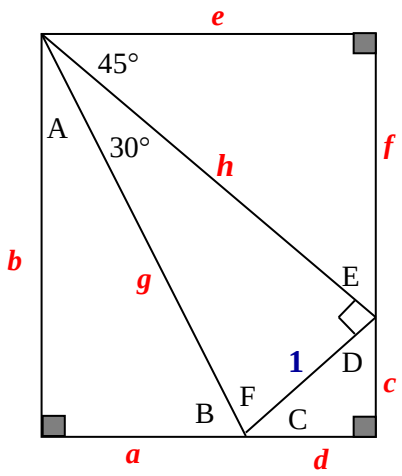
1. Given the rectangle to the right (all your answers in Radical Form - *no decimal*)

a) Find the measures of *A, B, C, D, E,* and *F* angles

b) Find the sides *a* thru *h*.

c) Fill up the table

θ	$\sin\theta$	$\cos\theta$	$\tan\theta$
15°			
75°			



2. An oil tanker strikes a sand bar that rips a hole in the hull of the ship. Oil begins leaking out of the tanks with the spilled oil performing a circle around the tanker. The radius of the circle increasing at rate of 2.2 *ft/hr*.

a) Write the area of the circle as a function of the time (***t***).

b) Write the radius of the circle as a function of time.

c) What is the radius of the circle after 3 *hours*.

d) Determine the area of the circle after 3 *hours*.

e) Compute the rate of change of the circle from 3 *hours* to 4 *hours*.

f) If the oil tanker is 200 *yards* from shore, when will the oil spill first reach the shore line
(1 *yd* = 3 *feet*)

3. Apply the appropriate angle in radian (*no decimal* - ***use*** *fraction*) and degree (*no decimal* - ***use*** *minute*)