Math 1316 – Trigonometry **Assignment 1** **Name** _____

Instructor: Fred Khoury

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

1. (3 *points*) Your professor needs to cut an arc for the top of an entrance way.

The arc needs to be **2*a*** wide (NP) and ***b*** high (QR).

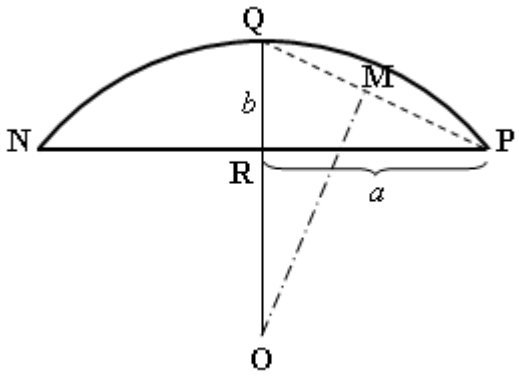

Figure above:

a: is the half length of the chord NP

b: is the distance from the midpoint of chord NP to the circle. (QR)

c: is the distance QP.

r: is the radius of the circle (OQ)

M: Midpoint of the segment QP.

Find a ***formula*** for the radius ***r*** in function of ***a*** and ***b*.**

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

a) (1 *points*) Find the measures of A, B, C, D, E, and F angles

b) (2 *points*) Find the sides *a* thru *h*.

c) (4 *points*) Fill up the table

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