Name: _____

TAM 211 Written Assignment 12 (due on April 21st)

The round gate AB (shown in yellow) is pined at A by a hinge. When filled with water, the gate will release its contents unless there is a downward verticle force at B to hold the gate in place. Suppose Professor Juarez and his family (pet dog included) are standing at B with a combined mass of 750 kg. Assuming the radius of the gate $r = 1.5$ m and the thickness of the tank $t = 0.5$ m, find the minimum depth of water (h) at which the resulting weight (F_H) will no longer hold the gate, allowing water to exit the tank at point B.