Assignment #8

Math 181

Name:

A dam has the shape of a trapezoid with height of 40m, the bottom base of 80m and the top base of 120m. Find the force on the dam due to hydrostatic pressure if the water is 4m from the top of the dam.

2. Find the hydrostatic force on one end of a cylindrical drum with radius 3 ft if the drum is submerged in water 20ft deep from its top.

3. The end plates of the trough shown here were designed to withstand a fluid force of 6667 lb. How many cubic feet of water can the tank hold without exceeding this limitation? Round down to the nearest cubic foot.



- 4. The rectangular tank shown here has a 1ft by 1ft square window 1ft above the base. The window is designed to withstand a fluid force of 312lb without cracking.
 - a) What fluid force will the window have to stand if the tank is filled with water to a depth of 3 ft?
 - b) To what level can the tank be filled with water without exceeding the window's design limitation?

