Math 122 - #11
Fluid Force

1. Find the force on a 44 foot wide by 9 foot deep wall of a swimming pool filled with water. ρg =62.4 lb/ft^3.

2. A triangle with sides 5,5 and 6 feet is submerged vertically in water (ρg =62.4 lb/ft^3) with the 6 foot side at the surface. Find the force on the plate.

3. A flat plate in the form of a semicircle 10 m in diameter is submerged in water (ρg =9810 N/m^3). Find the force on the plate.

4. A triangle with sides 13, 13, and 24 feet is submerged vertically in water (ρg =62.4 lb/ft^3) with the point up and the long side is parallel to the surface. If the vertex is 4 feet below the surface, find the force on the plate.

Answers

1. 111,196.8 lb

2. 998.4 lb

3. 817,500 N

4. 27,456 lb