Physics 151 Class Exercise: Fluids

1. A brick weighs 17.8 N and is resting on the ground. Its dimensions are 0.203 m x 0.0890 m x 0.0570 m. A number of the bricks are then stacked on top of this one. What is the smallest number of whole bricks (including the one on the ground) that could be used, so that their weight creates a pressure of at least one atmosphere on the ground beneath the first brick. (Hint: First decide which face of the brick is in contact with the ground).

Answer:	

2.   A mechanic is raising a car with a hydraulic lift to make repairs to the underside. The smaller piston has a radius of 15 cm while the large piston has a radius of 85 cm.   To raise a 1800 kg car 1.4 m,
a) how much force must the mechanic apply to the small piston, and
b) through what distance must she move the small piston.

Answer:	
Answer:	