Key

Physics 103 Quiz # 2, Thursday (1/31/2013)
Show all work in order to obtain points for problems

Name:_____

1. (3 pts) A large stone is resting on the bottom of the swimming pool. The normal force of the bottom of the pool on the stone is equal to the:

    a. weight of the stone.
    b. weight of the water displaced.
    c. sum of the weight of the stone and the weight of the displaced water.
    (d.) difference between the weight of the stone and the weight of the displaced water.

2. (5 pts) The Greenland ice sheet can be one km thick. Estimate the pressure underneath the ice. (The density of ice is 918 kg/m^3.)

    a. 9.0×10^5 Pa (9 atm)
    b. 2.5×10^6 Pa (25 atm)
    c. 4.5×10^6 Pa (45 atm)
    (d.) 9.0×10^6 Pa (90 atm)

$$P = P_0 + \rho g h$$
$$= 1.01 \times 10^5 + (918)(9.8)\, 1000m$$
$$\underset{kg/m^3}{\wedge} \quad {}_{m/s^2}$$
$$= 9.0 \times 10^6 \text{ Pa}$$