Pressure in fluids

- **Pascal's Principle:**

"Pressure in static fluid is transmitted uniformly in all directions"

P = *const*

(static fluid, no gravity)

- **Hydrostatic Pressure.** Due to gravity, the pressure increases as you go deeper in fluid (ρ is the density of the fluid, g – free fall acceleration, h –depth under the surface):

$$\Delta P = \rho g \Delta h$$

$$\Delta h$$

$$P = P_{atm}$$

$$P = P_{atm} + \rho g \Delta h$$
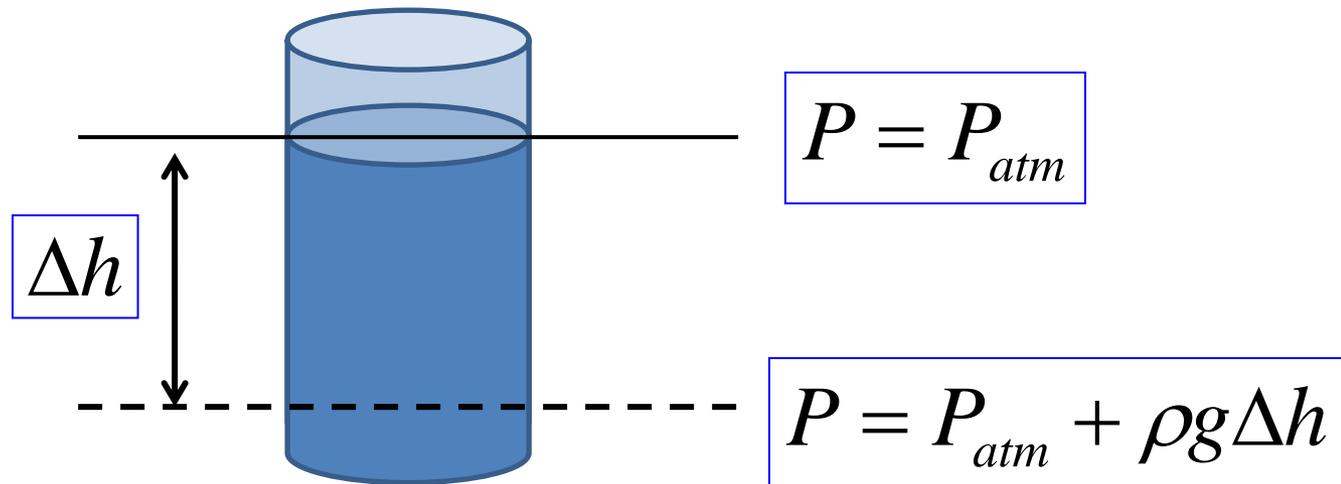
Homework 18

Problem

Find pressure created at depth 0.6 meters in water, oil and mercury. Density of water is 1000 kg/m^3, of oil - 800kg/m^3, of mercury - 13600 kg/m^3.