

Fluid Pressure:

$$P = P_{\text{atm}} + dgy$$

Buoyant Force:

$$\vec{F}_b = d_{\text{fluid}} V_{\text{disp}} g$$

Fluid Flow Rate:

$$Q = \frac{V}{t}$$

Bernoulli's Equation:

$$P_1 + dgy_1 + \frac{d\vec{v}_1^2}{2} = P_2 + dgy_2 + \frac{d\vec{v}_2^2}{2}$$

Torricelli's Theorem:

$$\vec{v}_2 = \sqrt{2g\Delta y}$$