

① Density

$$\rho = \frac{m}{V}$$

unitless

$$SG = \frac{\rho_{\text{object}}}{\rho_{H_2O}}$$

units ρ

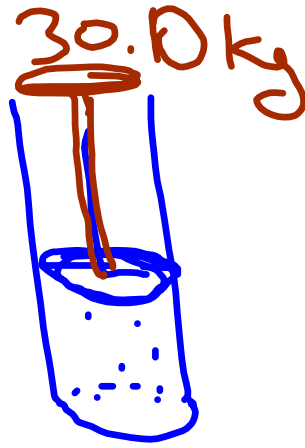
$$\rho_{H_2O} = 1.00 \frac{g}{cm^3} \\ \text{at } 25^\circ C \\ = 1000 \frac{kg}{m^3}$$

②

$$F = mg$$

$$A = \pi r^2$$

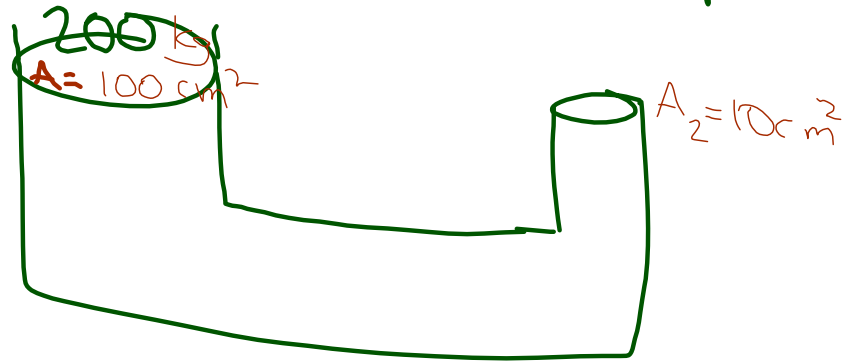
$$b) P_{\text{gauge}} = P_{\text{abs}} - P_{\text{atm}}$$



Gauge Pressure

$$P_{\text{abs}} = P_{\text{atm}} + P_{\text{piston}}$$

③ Pascal's Principle $\frac{F_1}{A_1} = \frac{F_2}{A_2}$



$$A_1 d_1 = A_2 d_2$$

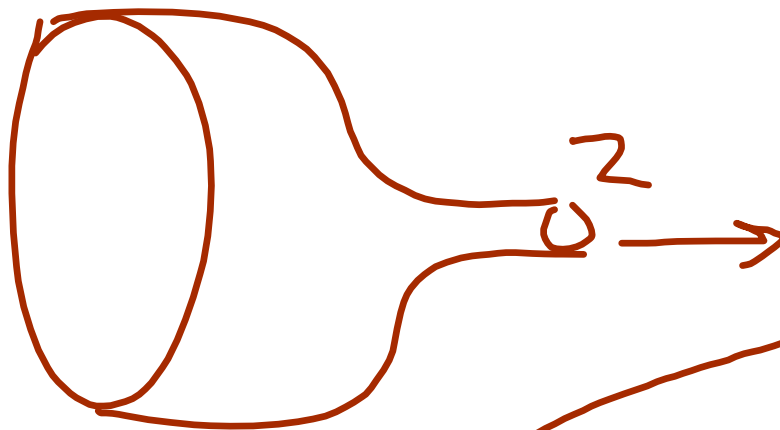
$$100 \text{ cm}^2 (5.0 \text{ cm}) = (10 \text{ cm}^2) d_2$$

+5 D

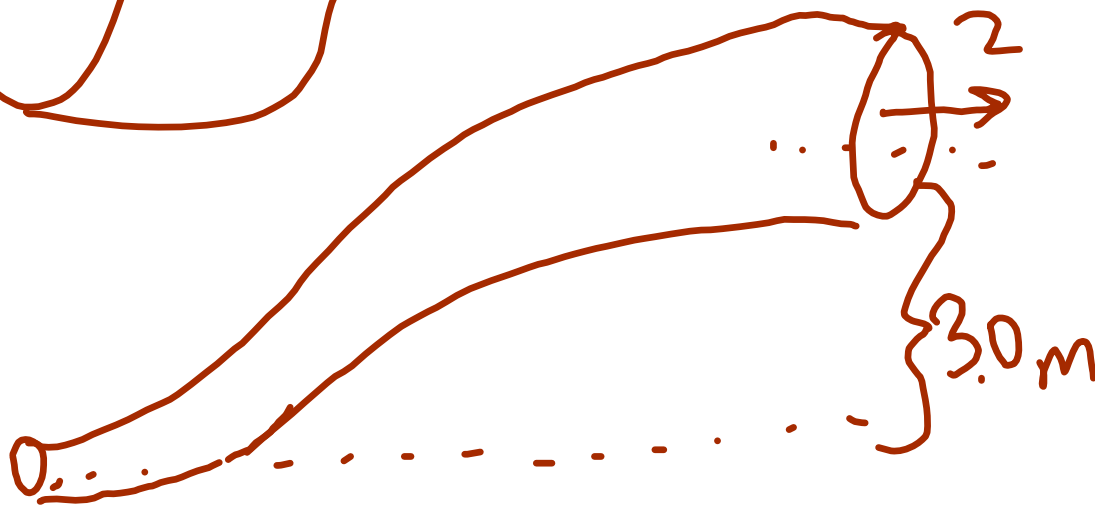
$$c) \text{ eff} = \frac{W_{\text{out}}}{W_{\text{in}}} \times 100\%$$

$$IMA = \frac{d_1}{d_2} = \frac{50}{5}$$

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Physics Club

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