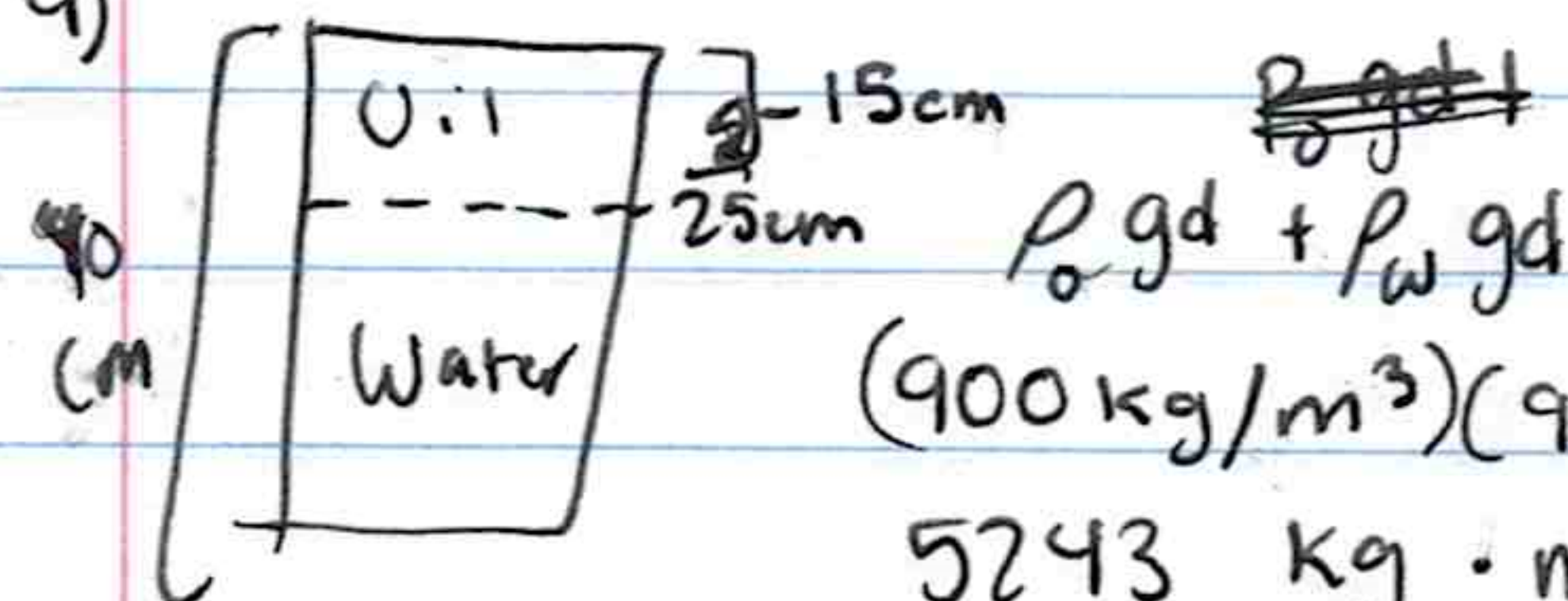


6) $200 \text{ mL} = 200 \text{ g} + 150 \text{ g} = 350 \text{ g}$

$512 \text{ g} - 350 \text{ g} = 162 \text{ g}$

9)



$(900 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(0.15 \text{ m}) + (1000 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(0.4 \text{ m})$

$\frac{5243 \text{ kg} \cdot \text{m/s}^2}{1 \text{ m}^2} = 5243 \text{ Pa}$

13) $d = ?$

$r = 10 \text{ cm}$

$\rho_{\text{sea}} = 1030 \text{ kg/m}^3$

$N_{\text{max}} = 1 \cdot 10^6 \text{ N}$

$A = \pi r^2 = \pi (10 \text{ cm})^2 = 300 \pi = 314.16 \text{ cm}^2$

$P = 1.0 \text{ atm} = 101.3 \text{ kPa}$

$\rho_{\text{sea}} g d = F/A$

$(1030 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(d) = (1 \cdot 10^6 \text{ N})(0.031416 \text{ m}^2)$

$d = \frac{(1 \cdot 10^6 \text{ N})(0.031416 \text{ m}^2)}{(1030 \text{ kg/m}^3)(9.8 \text{ m/s}^2)} = 3.11 \text{ m}$

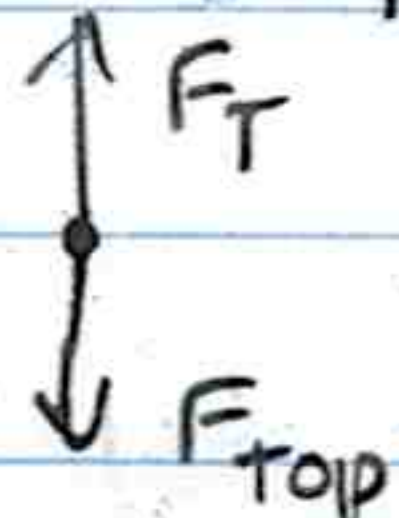
~~$P/A = 101.3 \text{ kPa}$~~
 ~~$\rho_{\text{sea}} g d = 101.3 \text{ kPa}$~~
 ~~$(1030 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(d) = 101.3 \text{ kPa}$~~
 ~~$(1030 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(d) = 101.3 \text{ kPa}$~~
 ~~$(1030 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(d) = 101.3 \text{ kPa}$~~

16) $d = 16 \text{ cm} - 6 \text{ cm} = 10 \text{ cm Hg}$

$1 \text{ cm Hg} = 100 \text{ mm Hg}$

$\frac{10 \text{ cm}}{1 \text{ cm}} \cdot \frac{100 \text{ mm}}{1 \text{ cm}} = 1000 \text{ mm Hg}$

25) $F_T = F_{\text{top}}$



$F_B = \rho_F V_F g = (2700 \text{ kg/m}^3)(100 \text{ m}^3)(9.8 \text{ m/s}^2) = 26460 \text{ N}$

29) $F_B = \rho_F V_F g = (1000 \text{ kg/m}^3)(0.25 \text{ m}^3)(9.8 \text{ m/s}^2)$

$P = F/A$

$F = P/A$

$F = (9.8 \text{ m/s}^2)(m)$

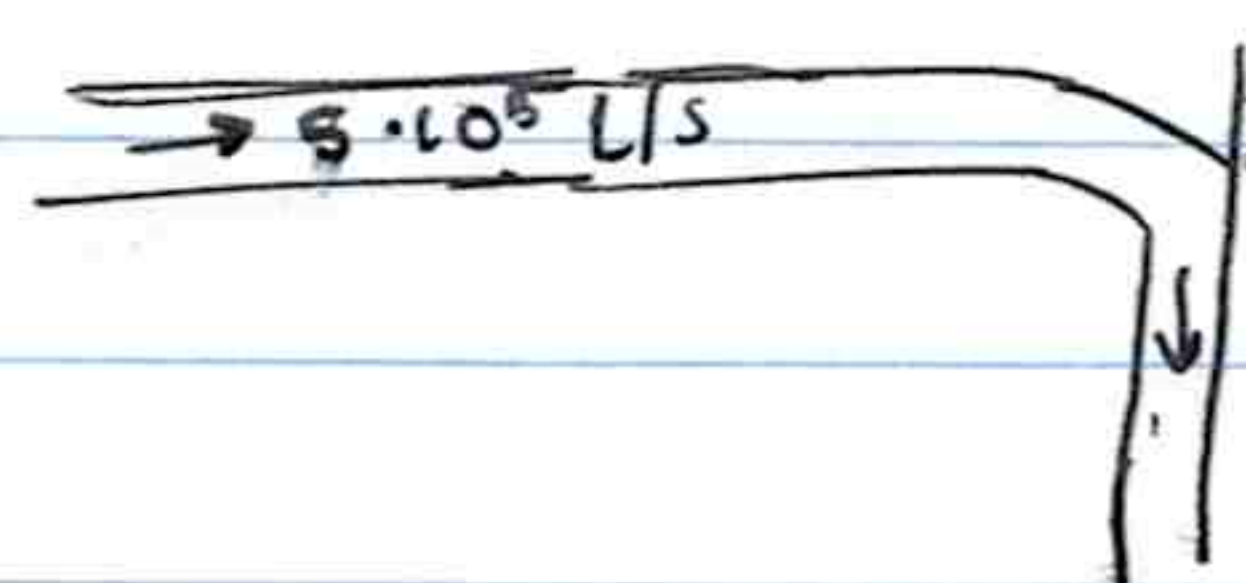
$m = P/(0.0654 \text{ m}^3 \cdot 9.8 \text{ m/s}^2)$

$m = P/0.64092 \text{ m}^3/\text{s}^2$

$\frac{4}{3} \pi r^3 = V$
 $\frac{4}{3} \pi (0.25 \text{ m})^3 = 0.0654 \text{ m}^3$

$\rho_F V_F g = (1000 \text{ kg/m}^3)(9.8 \text{ m/s}^2)(0.0654 \text{ m}^3)$

31)



$A = 150 \cdot 10 = 1500 \cdot 1 = 1500 \text{ m}^3$

$\frac{\Delta V}{\Delta t} = \frac{10 \cdot 10^5 \text{ L}}{1 \text{ s}} = 1500 \text{ m}^3 = 0.0015 \text{ m}^3/\text{s}$