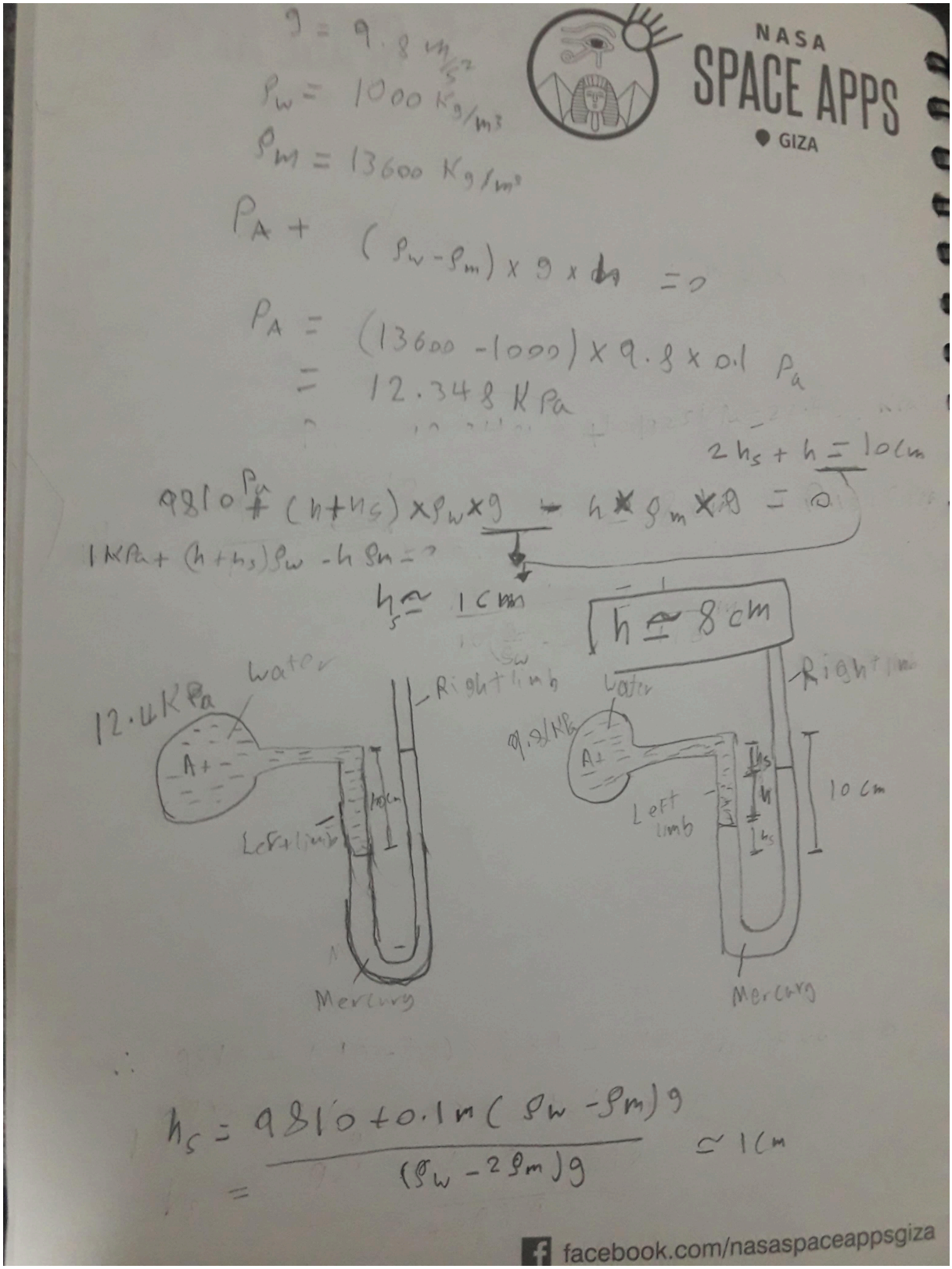
Question 2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$g = 9.8\ m/s^2$
$\rho_w = 1000\ Kg/m^3$
$\rho_m = 13600\ Kg/m^3$
$P_A + (\rho_w - \rho_m) \times g \times h = 0$
$P_A = (13600 - 1000) \times 9.8 \times 0.1\ Pa$
$= 12.348\ KPa$
$2h_s + h = 10cm$
$9810 P_a + (h + h_s) \rho_w \times g - h \rho_m \times g = 0$
$1KPa + (h + h_s)\rho_w - h\rho_m = 0$
$h_s \simeq 1cm$
$h = 8cm$
12.4KPa
water
Right limb
Left limb
Mercury
9.3KPa
10 cm
$h_s = \frac{9810 + 0.1m(\rho_w - \rho_m)g}{(\rho_w - 2\rho_m)g} \simeq 1cm$
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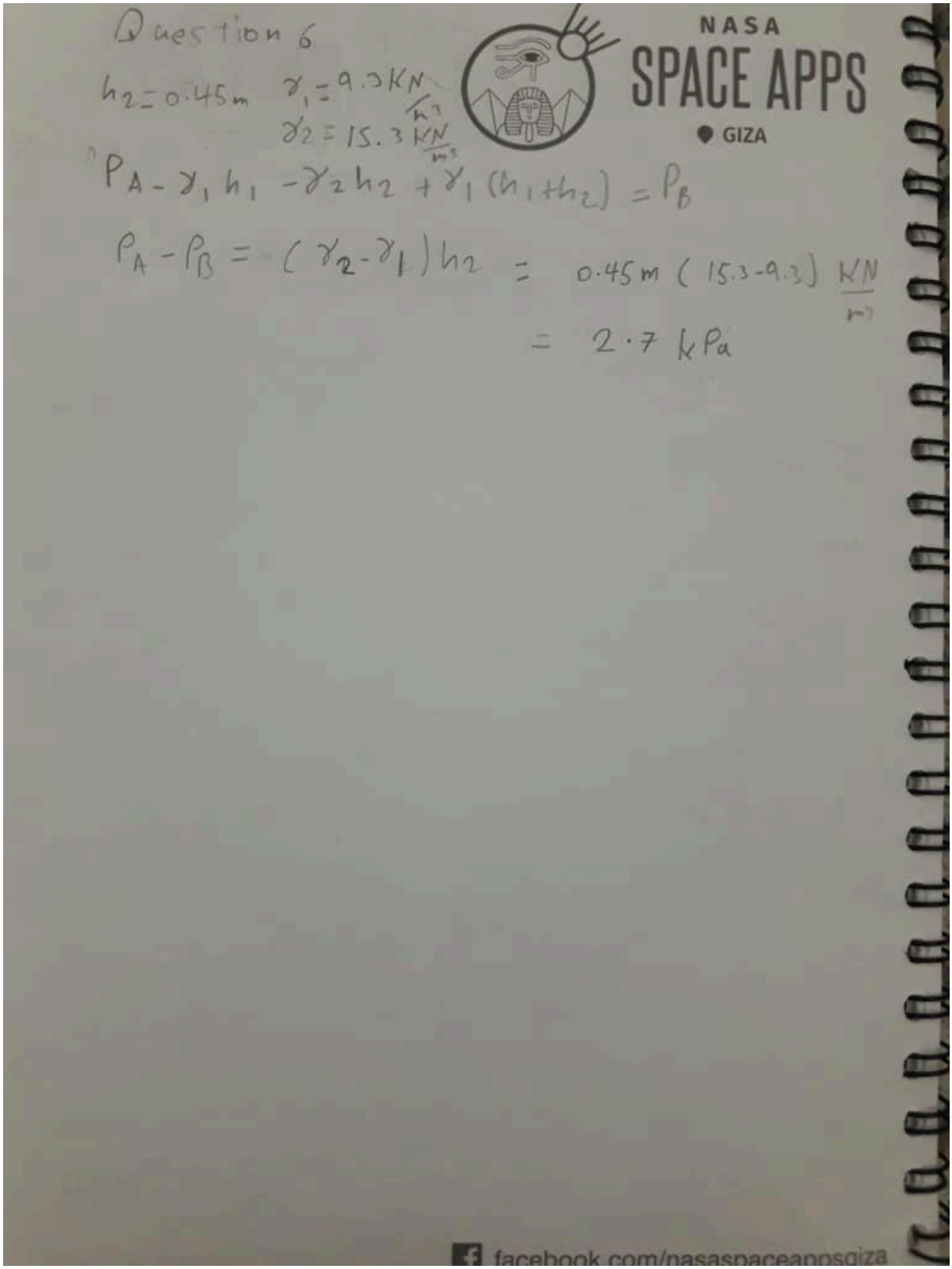
Question 6


Question 6
$h_2 = 0.45m$ $\gamma_1 = 9.3 \frac{KN}{m^3}$
$\gamma_2 = 15.3 \frac{KN}{m^3}$
$P_A - \gamma_1 h_1 - \gamma_2 h_2 + \gamma_1 (h_1 + h_2) = P_B$
$P_A - P_B = (\gamma_2 - \gamma_1) h_2 = 0.45m (15.3 - 9.3) \frac{KN}{m^3}$
$= 2.7 kPa$
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