$l = 3.5\ mt$

$A = 1.5\ cm^2$

$\Delta L = 0.07\ cm$

$m = 300\ Ky \quad p = m \cdot y = (300\ Ky) \times (9.81\ m/s^2)$

$p = 2943\ nw/m^2$

a) $E = \frac{F}{A}$

$1.5\ cm^2 \cdot \frac{1^2}{100^2}\ \frac{mt^2}{cm^2}$

$E = \frac{2943\ m}{\quad} \longrightarrow 1.5 \times 10^{-4}\ mt^2$

$E = 19620000$

B) $Du = \frac{\Delta L}{L}$

$1)\ u = 2 \times 10^{-4}$

$Du = \frac{0.07\ cm}{3.5\ mt}$

$Du = \frac{0.07\ cm}{350\ cm}$

C) $Y = \frac{FL}{A \Delta L}$

$Y = \frac{(2943\ nw)(3.5\ mt)}{(1.5\ cm^2)(0.07\ cm)}$

$Y = 9.81$

$Y = \frac{(2943000000\ Din)(350)}{(1.5\ (cm^2)(0.07\ cm)}$

2.-

$L = 2.7\ m$

$\Delta L = 0.15\ cm$

$m = 50\ Kg$

a) $\Delta L = \frac{F \cdot L}{Y \cdot A}$

$\Delta L = \frac{(490500000\ Din)(270\ cm)}{(19 \times 10^{11})\ (0.15\ cm^2)}$

$\Delta L = 0.3\ cm$

b) $E = \frac{F}{A} \qquad T = F$

$F = E \cdot A = (20 \times 10^{8}\ Din/cm^2)(0.15\ cm^2)$

$F = 300 \times 10^{6}\ Din$

$Y = 19 \times 10^{11}\ din/cm^2$

3

$L = 1.2\ m$

$A = 0.22\ cm^2$

$m = 4.10\ kg$

$F = (4.10)(9.8\ m/s^2)$

$F = 40.221$

a) ~~$\Delta L = \frac{F L}{A \Delta L}$~~

$$\Delta L = \frac{F L}{A \Delta L}$$

$$\Delta L = \frac{(40.22100)(120)}{(18 \times 10^{11})(0.22\ cm^2)}$$

$\Delta L = 0.0012\ cm$

B)

$F = E \cdot A$

$F = (15 \times 18^8)(0.22\ cm^2)$

$F = 330000000\ din$

4.-

$L = 125\ cm$

$A = 2.5\ cm^2$

$\Delta L = 0.5 \times 10^{-4}\ cm$

$Y = 7 \times 10^{11}\ D.n/cm^2$

$$F = \frac{(7 \times 10^{11}\ D.n/cm)(2.5\ cm^2)(0.5 \times 10^{-4}\ cm)}{125\ cm}$$

$$\boxed{F = 700000\ DN}$$

5.-

$m = 1000\ Kg$ $\quad V = \frac{m}{D}$

$D = 79\ Kg/m^3$

$$V = \frac{1000\ Kg}{79\ Kg/m^3} = 1.26\ m^3$$

6.-

$$m = \frac{P}{G} \quad \frac{906\ N/m^3}{9.91\ m/s^2} = 919.06\ Kg$$

$$D = \frac{m}{V} = \frac{919.06}{3000} \qquad D = 0.306$$

$$V = \frac{m}{D} = \quad V = \frac{916.06}{0.306}$$

$$V = 3.00^3$$

7.-

$p = D \cdot g$

$p = \frac{19300\ kg/m^3}{9.81\ m/s^2}$

$p = 1967.3$

8.-

$M = 1500\ kg$

$V = 0.13274\ m^3$

$d = 11,300.2$

$d = \frac{m}{v}$

$d = \frac{1500\ kg}{0.13274\ m^3}$

9.-

a) es la consecuencia de la accion de la fuerza de la gravedad sobre la columna de aire situada por encima de este punto

b) seria aspirado por el peso del aire, no podria contrarrestar el peso del aire

C) evito muchas posibles lesiones a los pulmones

D) permite el paso de fluidos de tal manera que es mas dificil la entrada de un liquido, de tal manera estas cortinas permiten que escape el aire

10. -

$A = 0.3\ m^2$

$F = (420)(0.3) = 126$

11. - $Ph = D \cdot g \cdot h \Rightarrow \frac{ph}{D \cdot g} = \frac{8 \times 10^6}{1025 \times 9.81} = 796^{\circ}.6$

12 - $Ph = D \cdot g \cdot h$

$ph = (1000\ kg/m^3)(9.81\ m/s^2)(6\ m)$

$Ph = 58,860\ nw/m^2$

13: $Ph = D \cdot g \cdot h$

$ph = (680\ kg/m^3)(9.81\ m/s^2)(0.9)$

$Ph = 6003\ nw/m^2$