

Problema 2

a) $\Pi_H = \gamma h_0 A = 9800 \times 2,5 \times 5 \times 1 = 122500 \text{ N/m}$ (3 val)

$$\Pi_V = \gamma V = 9800 \times \left(4 \times 1 \times 1 + \frac{\pi \times 1^2}{4} \times 1 \right) = 46896,9 \text{ N/m}$$
 (3 val)

b) $\sum M_A = 0 \rightarrow G \times b_G + \Pi_V \times b_{\Pi_V} - \Pi_H \times b_{\Pi_H} = 0$ (1 val)

$$b_G = 2 \text{ m}$$

$$b_{\Pi_H} = 0,5 + \frac{5}{3} = 2,1667 \text{ m}$$

$$b_{\Pi_V} = 4 - \frac{0,5 \times 4 \times 1 + 0,4244 \times 1 \times \pi \times 1^2 / 4}{4 \times 1 + \pi \times 1^2 / 4} = 3.512 \text{ m}$$
 (2.5 val)

$$G \times 2 + 46896,9 \times 3.512 - 122500 \times 2.1667 = 0 \rightarrow G = 50404.5 \text{ N/m}$$
 (0.5 val)