



**Nombre de alumno:** Elías Javier  
Bravo Pérez

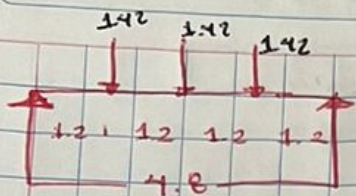
**Nombre del profesor:** Arq. Pedro  
Alberto García López

**Nombre del trabajo:** Diagrama  
Cuerpo Libre

**Materia:** Analisis de Estructuras

**Grado:** 5to Cuatrimestre.

**Carrera:** Arquitectura.



$$M = \frac{F \cdot L}{2}$$

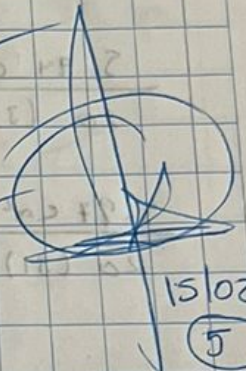
$$R_A = R_B = \frac{3F}{2}$$

$$\textcircled{1} \quad m = \frac{1.42 (4.8)}{2} = 3.41$$

- Cálculo y Diseño a Flexión
- Revisión a corte.

$$\textcircled{2} \quad M_U = 3.408 \cdot 1.2^{Ex 95} = 409.200$$

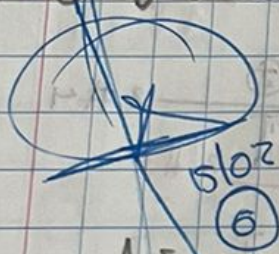
$$\textcircled{3} \quad \rho = \sqrt{\frac{409.200}{0.9 \times 20 \times 36^2 \times 136}} + (2) + 1 = 0.861$$



$$\textcircled{4} \quad \frac{(0.861 + 1) (136 \text{ Kg/cm}^2)}{1200} = 0.0045$$

$$\textcircled{5} \quad A_s = 0.0045 (20) (36) = 3.24$$

$$\textcircled{6} \quad \text{Diseño} = \frac{3.24}{2} = 1.62 \quad 3 \# 4 = 1.27 \times 3 = 3.81$$



$$\frac{3.81}{20(36)} = 0.0055$$

$$A_s = 0.00235 (20) (36) = \frac{1.692}{2} = 0.846 = 2 \# 4$$

$$\text{Scrip ext (mo)} = \frac{4.80}{4} = 1.2 \rightarrow \frac{1.2}{0.15} = 8 \quad \text{max} = 0.2$$

$$E_s = 26 \text{ pza} (1.04) = 27$$

$$+ 10 \text{ V} = \frac{29.7}{11} = 2.7$$

0.5 (100)

3 pza

$$VCR = R_A = R_B = \frac{3 (1.42)}{2} = 2.13$$

$$V_U = 2.13 (1.4) = 2.982 \rightarrow VCR = 1.5 (0.8) \cdot 20 \cdot 35 \sqrt{1.70^2} = 9.381$$