Nombre del Alumno José Amílcar Trejo hidalgo

Nombre del tema: diagramas

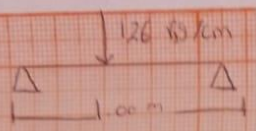
Parcial 4

Nombre de la materia: resistencia de materiales

Nombre del profesor : pedro alberto

Nombre de la Licenciatura arquitectura

Cuatrimestre 4to



① $\frac{126}{100} = 1.26$ kg/cm

② $RA = RB = \frac{qL}{2}$

$\frac{126\ (100\text{cm})}{2} = 63$ kg/cm

③ $\Sigma F_Y = 0$

$63\text{ kg} - [1.26\text{ kg/cm}\ (x)] - V = 0$

$V = 63\text{ kg} - [1.26\text{ kg/cm}\ (x)] = 0$

④ $\Sigma M = 0$

$-63\text{ kg}\ (x) + [1.26\text{ kg/cm}\ (x)(x/2)] + M = 0$

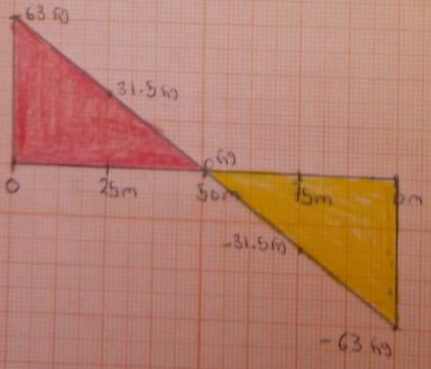
$-63\text{ kg}\ (x) + \left[\frac{1.26\text{ kg/cm}\ (x^2)}{2}\right] + M = 0$

$-63\text{ kg}\ (x) + 0.63\text{ kg/cm}\ (x^2)] + M = 0$

$M = 63\text{ kg}\ (x) - 0.63\text{ kg/cm}\ (x^2)$

5 Diagrama de cortantes

x	0	25cm	50 cm	75cm	100 cm
V					



$V = 63\text{ kg} - [1.26\text{ kg/cm}\ (0)] = 63$ kg

$V = 63\text{ kg} - [1.26\text{ kg/cm}\ (25\text{ cm})] = 31.5$ kg

$V = 63\text{ kg} - [1.26\text{ kg/cm}\ (50\text{ cm})]\ 0$ kg

$V = 63\text{ kg}\ [1.26\text{ kg/cm}\ (75\text{ cm})] = -31.5$ kg

$V = 63\text{ kg} - [1.26\text{ kg/cm}\ (100\text{ cm})] = -63$ kg

6 Grafica de Momentos

X	0 cm	25 cm	50 cm	75 cm	100 cm
M					

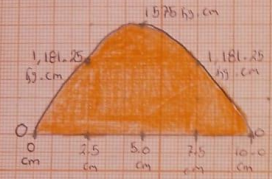
$M = 63\ kg\ (0\ cm) + 0.63\ kg/cm\ (0)^2 = 0\ kg \cdot cm$

$M = 63\ kg\ (25\ cm) - 0.63\ kg/cm\ (25\ cm)^2 = 1,181.25\ kg \cdot cm$

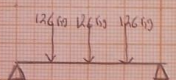
$M = 63\ kg\ (50\ cm) - 0.63\ kg/cm\ (50\ cm)^2 = 1575\ kg \cdot cm$

$M = 63\ kg\ (75\ cm) - 0.63\ kg/cm\ (75\ cm)^2 = 1,181.25\ kg \cdot cm$

$M = 63\ kg\ (100\ cm) - 0.63\ kg/cm\ (100\ cm)^2 = 0\ kg \cdot cm$



Metodo Por Cortes



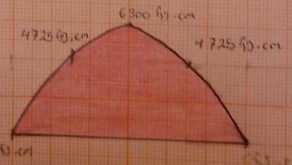
$RA = RB = \frac{3}{2} + \frac{3(126\ kg)}{2} = \boxed{189\ kg}$

$0 + (25\ cm \times 189\ kg) = 4,725\ kg \cdot cm$

$4725\ kg \cdot cm + (25\ cm \times 63\ kg) = 6,300\ kg \cdot cm$

$6,300\ kg \cdot cm + (25\ cm \times -63\ kg) = 4725\ kg \cdot cm$

$4725\ kg \cdot cm + (25\ cm \times -189\ kg) = 0\ kg \cdot cm$



$M = F \cdot L$

$M = \frac{126\ kg\ (100\ cm)}{2}$

$M = 6,300\ kg \cdot cm$

Raytor