



Ejercicios

Nombre del Alumno: Pablo Daniel Castro Herrera

Nombre del tema: Estatica

Parcial: I

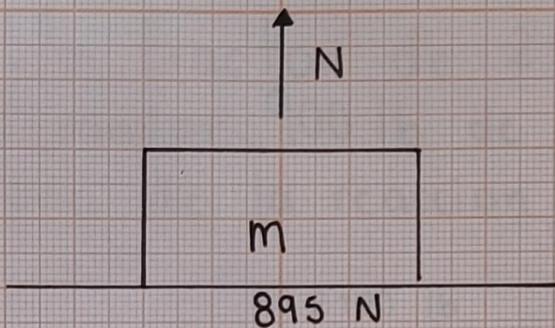
Nombre de la Materia: Estatica en la arquitectura

Nombre del profesor: Arq. Pedro Garcia

Nombre de la Licenciatura: Arquitectura

Cuatrimestre: 3

Fecha: 17 de mayo de 2023

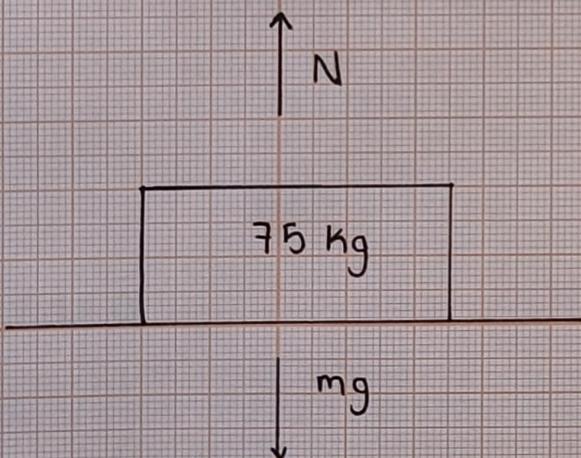


$$\Sigma F_y = 0$$

$$\Sigma F_y = 895 \text{ N} - 895 \text{ N} = 0$$

$$N = 91.32 \text{ kg} \cdot 9.8 \text{ m/s}^2 = 895 \text{ N}$$

$$m = \frac{895 \text{ N}}{9.81 \text{ m/s}^2} = 91.32 \text{ kg}$$



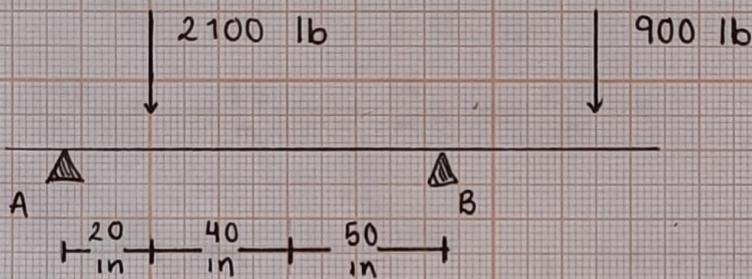
$$\Sigma F_y = 0$$

$$\Sigma F_y = 735 \text{ N} - 735 \text{ N} = 0$$

$$N = 75 \text{ kg} \cdot 9.81 \text{ m/s}^2 = 735 \text{ N}$$

$$mg = 75 \text{ kg} \cdot 9.81 \text{ m/s}^2 = 735 \text{ N}$$

Un tractor de 2100 lb se utiliza para levantar 900 lb de grava determina cada una de la reaccion de sus llantas.



$$\Sigma M = 0$$

$$[(-2100 \text{ lb}) 20 \text{ in}] + [(-900 \text{ lb}) 110 \text{ in}] + [(RB) 60 \text{ in}]$$

$$-42,000 \text{ lb}\cdot\text{in} - 99,000 \text{ lb}\cdot\text{in} + (RB) 60 \text{ in}$$

$$-141,000 \text{ lb}\cdot\text{in} + (RB) 60 \text{ in}$$

$$RB = \frac{141,000 \text{ lb}\cdot\text{in}}{60 \text{ in}}$$

$$RB = 2350 \text{ lb}$$

$$\Sigma Fy = 0$$

$$RA - 2100 - 900 + 2350 = 0$$

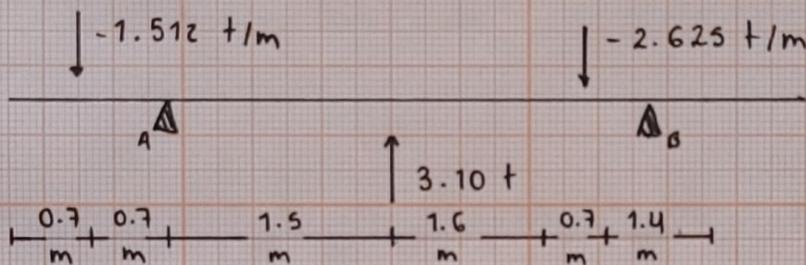
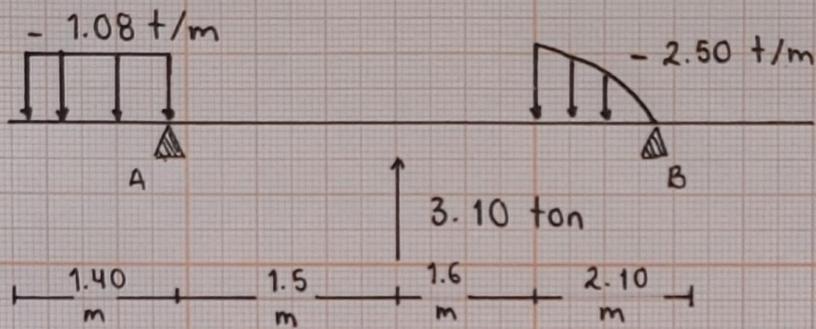
$$RA - 3000 + 2350 \text{ lb} = 0$$

$$RA - 650 \text{ lb} = 0$$

$$RA = 650 \text{ lb}$$

$$\Sigma Fy = 0$$

$$650 - 2100 - 900 + 2350 \text{ lb} = 0$$



$$\Sigma M = 0$$

$$[(1.512 \text{ t/m}) 0.7] + [(3.10) 1.5] + [(RB) 5.2] + [(-2.625) 3.8 \text{ m}]$$

$$1.05484 + 4.65 + (RB) 5.2 - 9.975$$

$$4.267 + 1 \text{ m } (RB) 5.2 \text{ m}$$

$$RB = \frac{4.267}{5.2}$$

$$5.2$$

$$RB = 0.82 \text{ t}$$

$$\Sigma F_y = 0$$

$$RA - 1.512 + 3.10 - 2.625 + 0.82 = 0$$

$$RA = -4.137 + 3.92 = 0$$

$$RA = -0.217 = 0$$

$$RA = 0.217$$

$$\Sigma F_y = 0$$

$$-1.512 + 3.10 - 2.625 + 0.217 = 0$$