

ESTÁTICA

JOSE JAVIER PERERA VENTURA

ARQ. PEDRO ALBERTO GARCIA

LOPEZ

3ER. CUATRIMESTRE

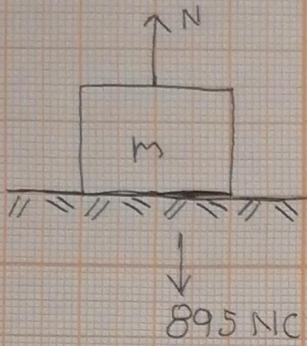
ESTÁTICA PARA LA

ARQUITECTURA

21 DE MAYO DEL 2023



1 encontrar la masa > composición Equilibrio

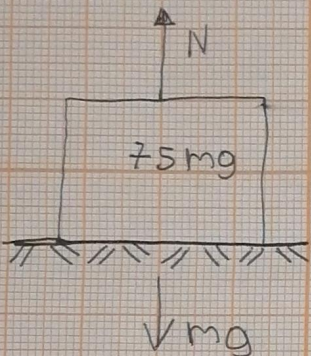


$$N = 895 \text{ N} / 9.81 \text{ m/s}^2 = 91.23 \text{ m}$$

$$mg \rightarrow 895 \text{ N} / 9.81 \text{ m/s}^2 = 91.23 \text{ Kg}$$

$$\sum F_x = 0 \rightarrow 91.23 \text{ m/s}^2 - 91.23 = 0$$

2 comprobar equilibrio



$$N = 75 \text{ mg} (9.81 \text{ m/s}^2) = 735.75$$

$$mg = 75 \text{ mg} (9.81 \text{ m/s}^2) = 735.75$$

$$\sum F_x = 0 \rightarrow \sum F_x = 735.75 - 735.75 = 0$$

3 un tractor de 2100 lb se utiliza para levantar 900 lb de gravel determinada cada una de sus ejes de manijas

$$w_B = 2100 \text{ lb}$$

$$w_g = 900 \text{ lb}$$

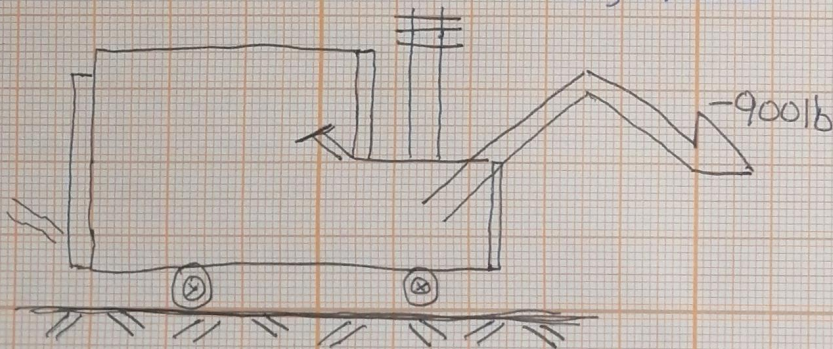
$$\sum M = 0$$

$$\sum M_A = [(2100 \text{ lb})(20)] + [(-900 \text{ lb})(50)] + [R_B(-60)] = 0$$

$$42,000 + 99,000 \text{ lb} + R_B \cdot 60 = 0$$

$$\frac{141,000 \text{ lb}}{60}$$

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



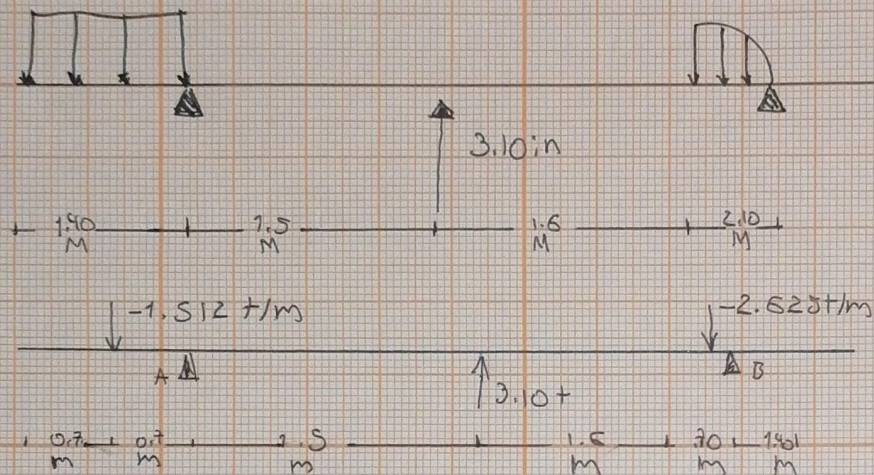
$$\sum F_y = 0$$

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

$$R_A = 3000 \text{ lb} + 2350 \text{ lb} = 0$$

$$R_A = -650 \text{ lb}$$

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



$$\sum M = 0 \quad [(1.5) (2 + 1) (0.7)] + [(3.10) (1.50)] + [(RB) (5.2)] + [(-2.625) (3.8 \text{ m})]$$

$$1.0548 + 4.65 + (RB) (5.2) - 9.975$$

$$4.267 + 1/3 (RB) (5.2 \text{ m})$$

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

$$5.2$$

$$RB = 0.821$$

$$\sum F_y = 0$$

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

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

$$RA = -0.217 = 0$$

$$RA = 0.217$$

$$\sum F_y = 0$$

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