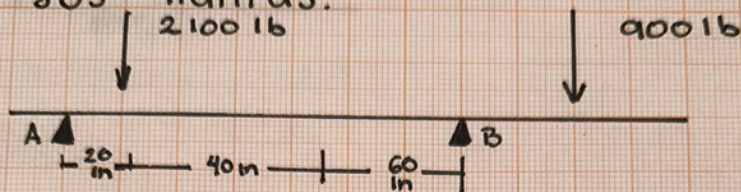




PASIÓN POR EDUCAR

ESTÁTICA PARA LA ARQUITECTURA
ÁNGEL GABRIEL GRANADOS PÉREZ
1ER. PARCIAL
ESTATICA
ARQ. PEDRO ALBERTO GARCIA LOPEZ
MAYO 2023

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



$$\Sigma M = 0$$

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

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

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

$$R_B = 141,000 \text{ lb}\cdot\text{in}$$

$$\frac{60 \text{ in}}$$

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

$$\Sigma F_y = 0$$

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

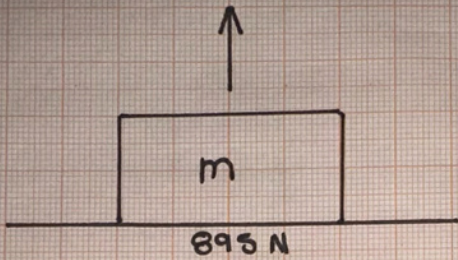
$$R_A - 3000 + 2350 \text{ lb} = 0$$

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

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

$$\Sigma F_y = 0$$

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

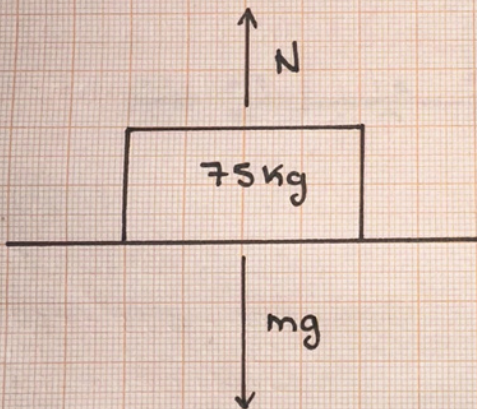


$$\Sigma F_y = 0$$

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

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

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

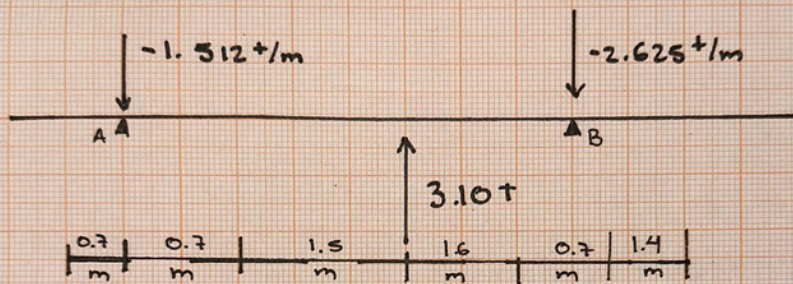
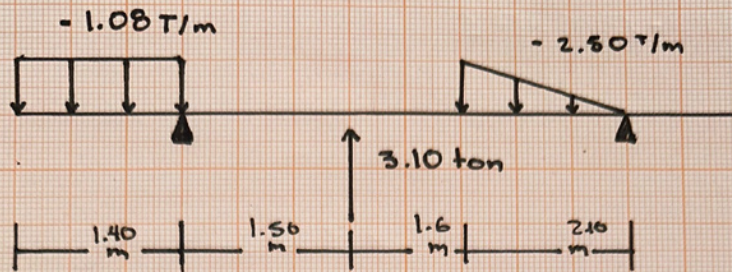


$$\Sigma F_y = 0$$

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

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

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



$$\Sigma M = 0$$

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

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

$$4.267 \text{ T/m} (R_B) 5.2 \text{ m}$$

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

$$R_B = 0.82 \text{ T}$$

$$\Sigma F_y = 0$$

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

$$R_A = -4.137 + 3.92 = 0$$

$$R_A = -0.217 = 0$$

$$R_A = 0.217$$

$$\Sigma F_y = 0$$

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