



Mi Universidad

Ejercicios

Nombre del Alumno: Frida Lizbeth Reséndiz Salazar

Nombre del tema: Estática para la arquitectura

Parcial : I

Nombre de la Materia: Estática para la arquitectura

Nombre del profesor: Pedro Alberto García López

Nombre de la Licenciatura : Arquitectura

Cuatrimestre: 3ro

Calcula el peso de un balón lanzado en la tierra con una masa de 0.6 kg

$$m = 0.6 \text{ kg}$$

$$g = 9.8 \text{ m/s}^2$$

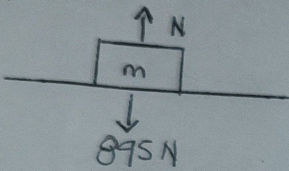
$$w = g \cdot m$$

$$w = 9.8 \text{ m/s}^2 \cdot 0.6 \text{ kg} =$$

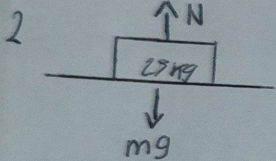
$$w = 5.88 \text{ N}$$

$$8.95 \text{ N} / 9.81 = 91.23 \text{ N}$$

$$\Sigma F_r = 0$$



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



$$N = 735$$

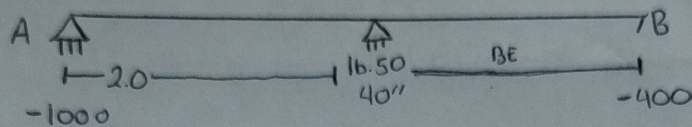
$$\Sigma F_r = 0$$

$$mg = 75$$

$$75 \times 9.81 = 735.75$$

$$735 - 735 = 0$$

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



$$M_A = [-2100 \text{ lb} (20)] - [900 (40)] + R_B 60 = 0$$

$$-42000 \text{ lb} - 36000 \text{ lb} + R_B 60 = 0$$

$$-78000 \text{ lb} + R_B 60 = 0$$

$$-78000 \text{ lb} = -R_B 60$$

$$\frac{78000}{60} = R_B$$

$$1300 \text{ lb} = R_B$$

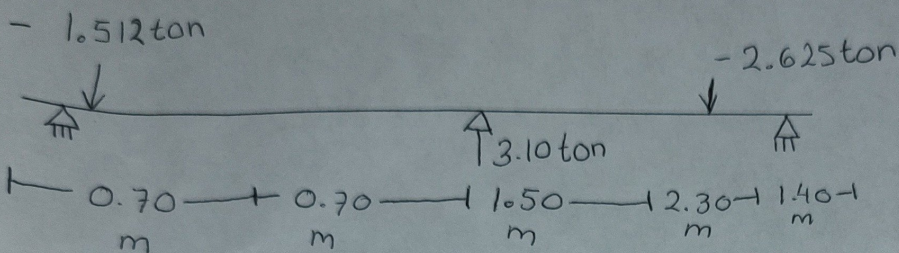
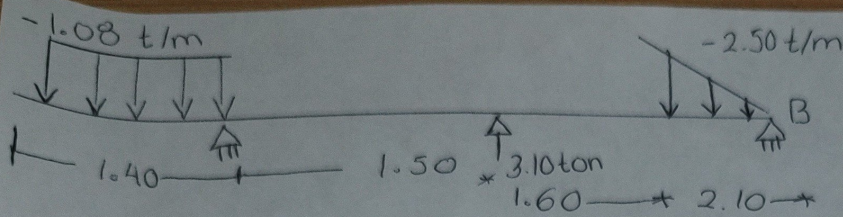
$$\sum F_y = R_A - 2100 \text{ lb} - 900 \text{ lb} + 1300 \text{ lb}$$

$$\sum F_y = R_A - 700 \text{ lb} = 0$$

$$R_A = +700 \text{ lb}$$

$$\sum F_y = 700 \text{ lb} + 1300 \text{ lb} - 2100 \text{ lb} - 900 \text{ lb}$$

$$\sum F_y = 0$$



$$(-1.512 \text{ ton} \cdot 0.70 \text{ m}) + (3.10 \text{ ton} \cdot 1.50 \text{ m}) + (2.625 \text{ ton} \cdot 3.80 \text{ m})$$

$$R_B \cdot 5.20 \text{ m}$$

$$(-1.0584 \text{ t} \cdot \text{m}) + (4.65 \text{ t} \cdot \text{m}) + (-9.975 \text{ t} \cdot \text{m}) + (R_B \cdot 5.20 \text{ m})$$

$$-6.3834 \text{ t} \cdot \text{m} + (R_B \cdot 5.20 \text{ m}) = 0$$

$$R_B = \frac{6.3834 \text{ t} \cdot \text{m}}{5.20 \text{ m}} = 0.82 \text{ ton}$$

$$-1.512 + 3.10 - 2.625 + 0.82 + 0.217 = 0$$

$$\sum Y = -1.512 \text{ ton} + R_A + 3.10 \text{ ton} - 2.625 \text{ ton} = 0$$

$$R_A = 0.217 \text{ ton}$$