LA ARQUITECTURA

NOMBRE DEL ALUMNO: Gari Daniel Tinajero Altúzar

NOMBRE DEL TEMA: EJERCICIOS

PARCIAL: 1

NOMBRE DE LA MATERIA: TEORIA DE LA ARQUITECTURA I

NOMBRE DEL PROFESOR: PEDRO ALBERTO GARCIA LOPEZ

LICENCIATURA: Arquitectura

CUATRIMESTRE: 3
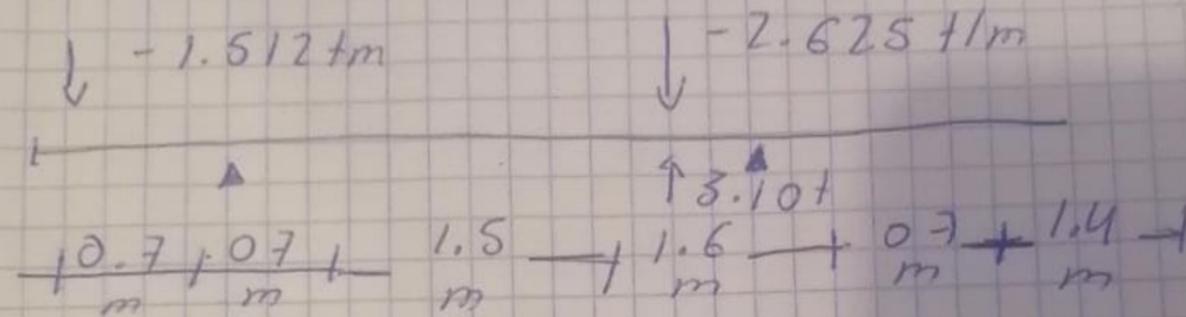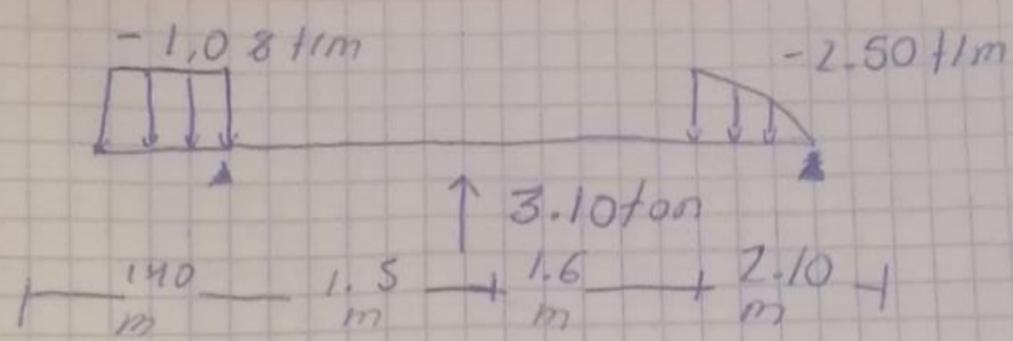
$-1,0\,8\,t/m$ $-2.50\,t/m$

↑ $3.10\,ton$

|← $140\,m$ →| $1.5\,m$ →|← $1.6\,m$ →|← $2.10\,m$ →|

↓ $-1.512\,tm$ ↓ $-2.625\,t/m$

↑ $3.10\,t$

|← $0.7\,m$ →|← $0.7\,m$ →|← $1.5\,m$ →|← $1.6\,m$ →|← $0.7\,m$ →|← $1.4\,m$ →|

$\Sigma M = 0$

$[(1.512+t/m)\,0.7]+[(3-10)\,1.5]+[RB\,5.2]+$
$[(-2.625)\,3.8m)$

$1.05484+4.65+(RB)\,5.2-9.975$
$4.267+t/m\;(RB)\,5.2m$

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

$RB = 0.827$

$\Sigma fy = 0$

$RA = -1.512+3.10-2.625+0.820$
$RA = -4.137+3.92 = 0$
$RA = -0.217 = 0$
$RA = 0.217$

$\Sigma fy = 0$

$-1512+310-2.625+0.217=0$

③ Un tractor de 2100lb se utiliza para levantar 900lb de grava determine cada uno de la reacción de sus llantas

| 2100lb | 900lb |

A ┌─20─┬─40─┬─60─┬ 8 ┐
  └ in └ in └ in ┘
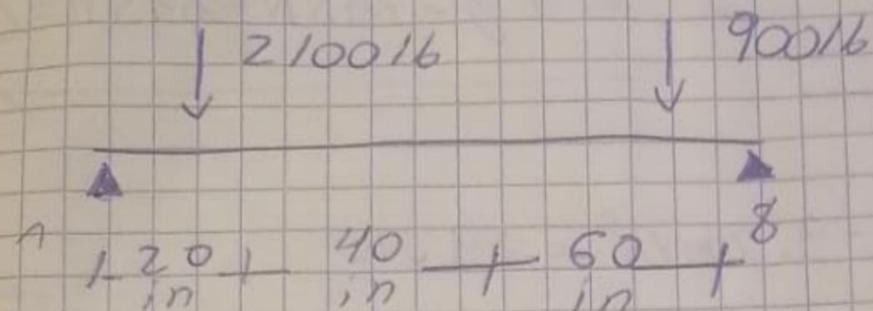
$\sum M = 0$

$[(-2100lb)(20in)] + [(-900lb)(110in)] + [(RB)(60)$

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

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

$RB = \dfrac{141,000 \, lb\text{-}in}{60 \, in}$

$RB = 2350lb$

$\sum fy = 0$

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

$RA = -3000 + 2550 \, lb = 0$

$RA = -650 \, lb = 0$

$RA = 650lb$

$\sum Fy = 0$

$650 - 2100 - 900 + 2350 \, lb = 0$

①

$$\Sigma \, fy = 0$$

$$\Sigma \, Fg = 895\,N - 895\,N = 0$$

$\uparrow N$

$[\;m\;]$
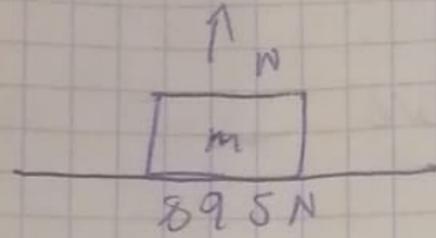
$895\,N$

$N = 91\ 32\,kg - 9.8\,m/s^2 = 895\,N$

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

②

$\uparrow N$

$[\,75kg\,]$

$\downarrow mg$
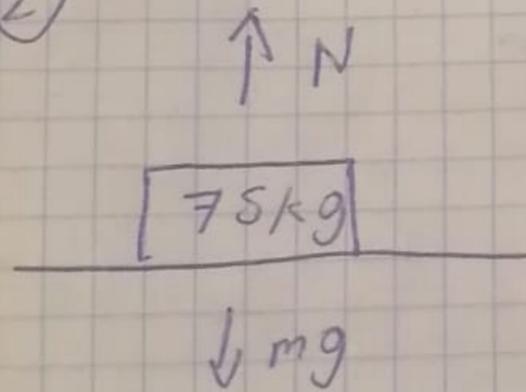
$$\Sigma fy = 0$$

$$\Sigma fy = 735\,N - 735\,N + 0$$

$N - 75\,kg - 9.81\,m/s^2 = 735\,N$

$mg - 75\,kg - 9.81\,m/s^2 - 735\,N$