UDS

NOMBRE: JOSE MIGUEL GARCIA DOMINGUEZ

DOCENTE: ABEL ESTRADA DICHI

NOMBRE DEL TRABAJO: TENSION DE CUERDAS

MATERIA: ESTÁTICA PARA LA ARQUITECTURA

GRADO: 3°

GRUPO: ARQUITECTURA

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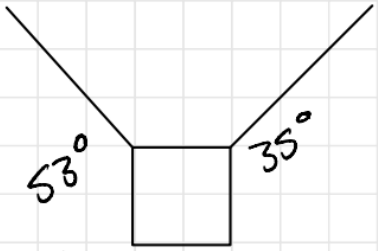
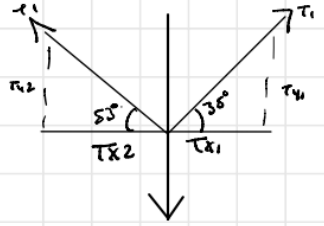
Jose Miguel Garcia Dominguez — Estatica — UDS



1 ton — 1000 kg
2 ton — X
2 ton — 2000 kg

$F = m.g$
$F = (2000\ kg)(9.81\ m/s^2)$
$F = 19,620$

$T_1 = (16,108.37)(0.733)$
$T_1 = 11,807.43\ N$



$\sum F_X = 0$
$T_{x1} - T_{x2} = 0$
$T_{x1} = T_{x2}$
$T_1 \cos 35° = T_2 \cos 53°$
$T_1\ 0.819 = T_2\ 0.601$
$T_1 = \frac{T_2\ 0.601}{0.819}$

$T_1 = 0.733$

$\sum F_Y = 0$
$T_{y1} + T_{y2} = 19620\ N$
$T_1 \sin 35° + T_2 \sin 53° = 19620\ N$
$T_1\ 0.573 + T_2\ 0.798 = 19620\ N$
$(T_2\ 0.733)(0.573) + T_2\ 0.798 = 19620$
$T_1\ 0.420 + T_2\ 0.798 = 19620\ N$
$T_2\ 1.218 = 19620\ N$
$T_2 = \frac{19620\ N}{1.218}$

$T_2 = 16,108.37\ N$