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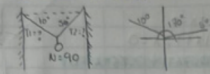
Nombre Del Trabajo: Problemario

Materia: Física

Grado: 4 Semestre Grupo: A

PROBLEMARIO

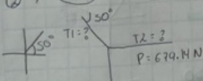
①



$$\begin{aligned}
 T_{1x} &= T_1 \cos 170^\circ & \Sigma T_x &= 0 \\
 T_{1y} &= T_1 \sin 170^\circ & T_{1x} T_{2x} &= 0 \\
 T_{2x} &= T_2 \cos 5^\circ & T_{1y} &= T_2 \sin 5^\circ \\
 T_{2y} &= T_2 \sin 5^\circ & T_{1y} T_{2y} &= 0
 \end{aligned}$$

$$\begin{aligned}
 -0.981 T_1 &= 0.0872 T_2 & 0.171 T_1 &= 0.0872 T_2 \\
 -0.325 T_1 &= 0.0872 T_2 & 0.171 T_1 (1.01012) &= 0.0872 T_2 \\
 T_1 &= 1.010 (357.56) & T_2 &= 90 / 0.251712 \\
 T_1 &= 361.13 \text{ N} & T_2 &= 357.56 \text{ N}
 \end{aligned}$$

②



$$\begin{aligned}
 T_{1x} &= T_1 \cos 130^\circ & \Sigma T_x &= 0 \\
 T_{1y} &= T_1 \sin 130^\circ & T_{1x} T_{2x} &= 0 \\
 T_{2x} &= T_2 \cos 0^\circ & T_{1y} &= T_2 \sin 0^\circ \\
 T_{2y} &= T_2 \sin 0^\circ & T_{1y} T_{2y} &= 0
 \end{aligned}$$

$$\begin{aligned}
 -0.64 T_1 &= 0.76 T_2 & 0.76 T_1 &+ T_2 = 679.14 \\
 -0.64 T_1 &= 1.18 T_2 & 0.76 (1.56 T_2) &+ T_2 = 679.14 \\
 T_1 &= 1.56 (575.54 \text{ N}) & T_2 &= 575.54 \text{ N} \\
 T_1 &= 897.84 \text{ N} & &
 \end{aligned}$$

PROBLEMA 10

$P = 1200\text{ N}$
 $T_1 = ?$
 $T_2 = ?$

$\Sigma F_x = 0$
 $T_1 \cos 140^\circ + T_2 \cos 30^\circ - P = 0$
 $-0.766 T_1 + 0.866 T_2 = 1200$

$\Sigma F_y = 0$
 $T_1 \sin 140^\circ + T_2 \sin 30^\circ - P = 0$
 $0.643 T_1 + 0.5 T_2 = 1200$

$0.643 T_1 + 0.5 T_2 = 1200$
 $0.643 T_1 + 0.5 T_2 = 1200$
 $0.643 T_1 + 0.5 T_2 = 1200$
 $1.22 T_2 = 1200$
 $T_2 = \frac{1200}{1.22}$
 $T_2 = 983.60\text{ N}$

$T_1 = 1.13(983.60)$
 $T_1 = 1111.46\text{ N}$

$\Sigma F_x = 0$
 $T_1 \cos 130^\circ + T_2 \cos 40^\circ - 50 = 0$
 $-0.643 T_1 + 0.766 T_2 = 50$

$\Sigma F_y = 0$
 $T_1 \sin 130^\circ + T_2 \sin 40^\circ - 50 = 0$
 $0.766 T_1 + 0.643 T_2 = 50$

$0.766 T_1 + 0.643 T_2 = 50$
 $0.766 T_1 + 0.643 T_2 = 50$
 $0.766 T_1 + 0.643 T_2 = 50$
 $1.53 T_2 = 50$
 $T_2 = \frac{50}{1.53}$
 $T_2 = 32.67\text{ N}$

$T_1 = 1.18(32.67)$
 $T_1 = 38.55\text{ N}$