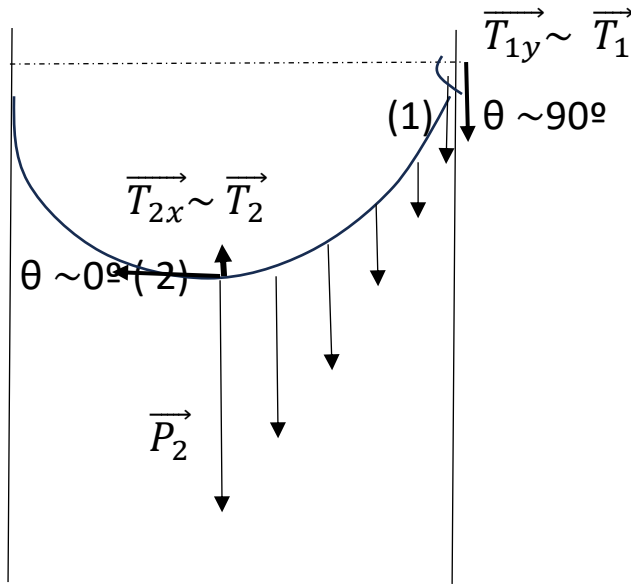


Catenary :



We consider that the forces present are the Weight and the Tension , and

$$P_1 + T_1 = P_2 + T_2 \text{ so that } (1) = (2).$$

We can also see that in (1) there is only Tension (the Weight is negligible), while in (2) there are Weight and Tension present .

In addition , I will take into account that when moving from (1) to (2) the Weight increases and the Tension decreases in the following way: $P_n = T_n \cdot b$

$$\text{Also in (1): } \vec{T}_{1y} = - \vec{T}_1 \cdot \sin \theta \quad \text{while } \vec{T}_{1x} = \vec{T}_1 \cdot \cos \theta \sim 0$$

$$\text{and } \vec{P}_1 \sim 0$$

$$\text{It occurs to me that } P_n = a_0 + a_0 r + a_0 r^2 + a_0 r^3 + \dots a_0 r^n$$

$$\text{So } P_n = P_{n-1} r^1$$

$$r \in [(1), (2)] ; "r" \text{ equals "b"}.$$

then : $T_{ny} + P_n = T_{(n+1)y} + P_{(n+1)y}$

$$- T_1 \cdot \sin \theta + 0 = - T_{n+1} \cdot \sin \theta - P_{n+1} \cdot \sin \theta =$$

$$= - T_{n+1} \cdot \sin \theta - T_{n+1} \cdot b \cdot \sin \theta$$

where $\theta = 90^\circ$ and $c \cdot \theta$ for $c \in (1,0)$

$$- T_1 \cdot \sin (c \cdot \theta) = - T_{n+1} \cdot \sin (c \cdot \theta) - T_{n+1} \cdot b \cdot \sin (c \cdot \theta)$$

Consider $\sum \overrightarrow{T_A}, \overrightarrow{P_A} = \sum \overrightarrow{T_B}, \overrightarrow{P_B}$

b and c should $\in$ Rational numbers from 1 to 0.