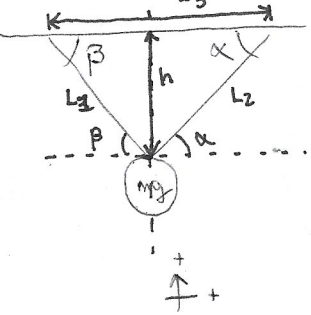
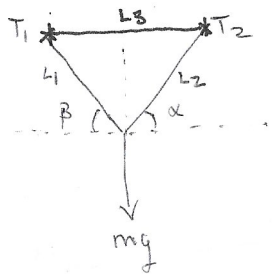


$\alpha = \sin^{-1}\left(\frac{h}{L_2}\right)$

$\beta = \sin^{-1}\left(\frac{h}{L_1}\right)$



$\Sigma F_x = \emptyset = T_2 \cos\alpha - T_1 \cos\beta$

$\Sigma F_y = \emptyset = T_1 \sin\beta + T_2 \sin\alpha - mg$

$T_2 \cos\alpha = T_1 \cos\beta$

$T_2 = T_1 \frac{\cos\beta}{\cos\alpha}$

#########

$T_1 \cos\beta + T_2 \cos\alpha - mg = \emptyset$

$T_1 \sin\beta + \left(T_1 \frac{\cos\beta}{\cos\alpha}\right) \sin\alpha - mg = \emptyset$

$T_1 \sin\beta + T_1 \cos\beta \tan\alpha - mg = \emptyset$

$T_1 \left(\sin\beta + \cos\beta \tan\alpha\right) - mg = 0$

$$T_1 = \frac{mg}{\sin\beta + \cos\beta \tan\alpha}$$

$$T_2 = \left(\frac{mg}{\sin\beta + \cos\beta \tan\alpha}\right)\left(\frac{\cos\beta}{\cos\alpha}\right)$$

on program:

T_1 = tension 1
T_2 = tension 2
m = mass
g = ACCEL_DUE_TO_GR.
L_1 = length 1
L_2 = length 2
L_3 = length 3

α = angle 2
β = angle 1