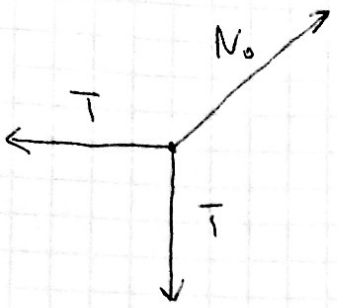

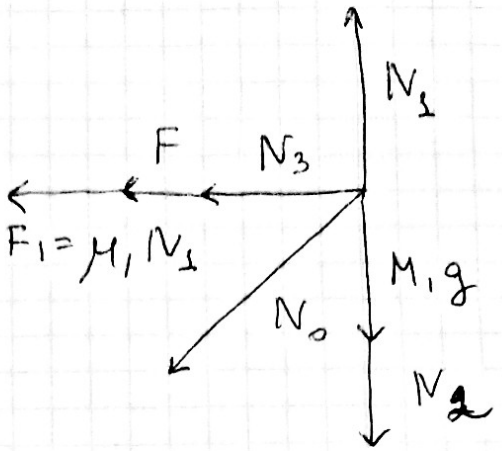

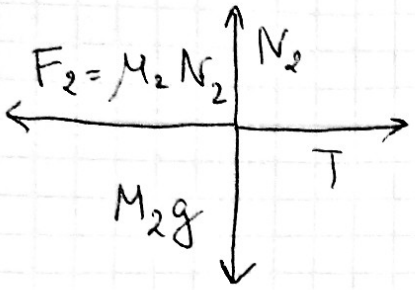

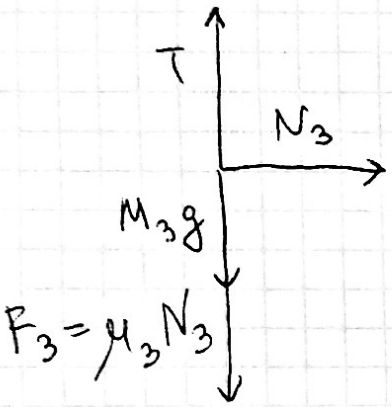

0: $N_{0x} = T \qquad N_{0y} = T$

1: $N_1 - M_1 g - N_2 - N_{0y} = 0$

$-F - \mu_1 N_1 - N_3 - N_{0x} = M_1 a_1$

2: $N_2 = M_2 g$

$T - \mu_2 N_2 = M_2 a_2$

3: $N_3 = M_3 a_{x_3}$

$T - M_3 g - \mu_3 N_3 = M_3 a_{y_3}$

Rope length = const : $a_1 - a_2 - a_{y_3} = 0$

M_3 stays in the hole : $a_2 = a_{x_3}$

$$a_1 = \frac{-F - \mu_1(M_1 g + M_2 g + T) - T}{M_1 + M_3}$$

$$a_2 = \frac{T}{M_2} - \mu_2 g$$

$$a_3 = \frac{T}{M_3} - g - \mu_3 a_1$$

$$T\left(\frac{1}{M_1 + M_3}(1 + \mu_1 + \mu_3 + \mu_1\mu_3) + \frac{1}{M_1} + \frac{1}{M_3}\right) =$$

$$= \frac{(1+\mu_3)}{(M_1 + M_3)}\left(-\mu_1 g(M_1 + M_2) - F\right) + g(1 - \mu_2)$$