

$$\textcircled{1} N_1 + N_2 - N_0 = 0$$

$$N_0 - Mg = 0$$

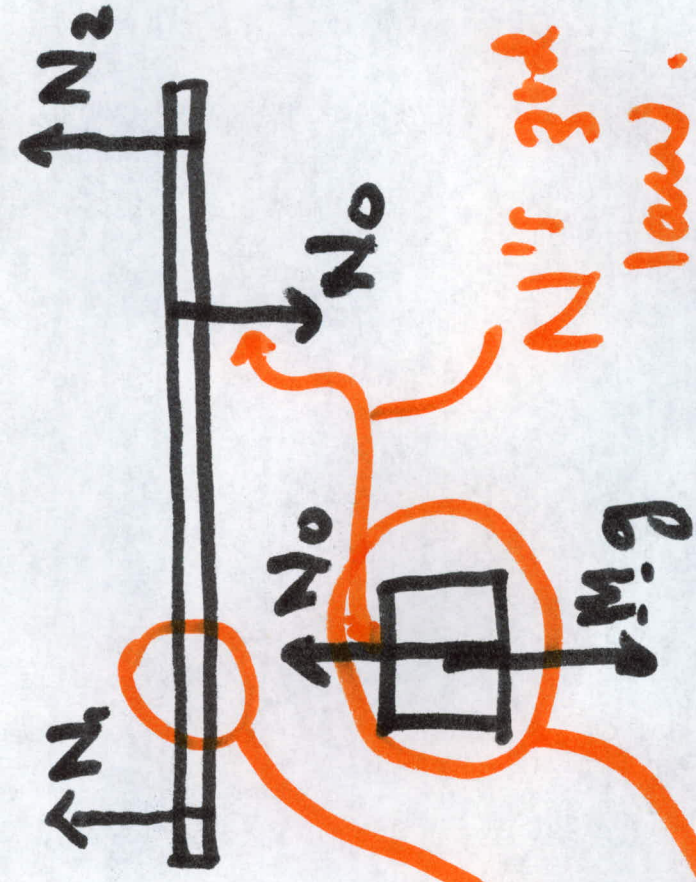
Static

$\textcircled{\tau_{\text{sum}}}$

$$L N_2 \sin 90^\circ - x N_0 \sin 90^\circ = 0$$

$$N_0 = Mg$$

gang "signs" \pm



$$L N_2 - x M g = 0 \quad \text{--- torque balance}$$

$$N_1 + N_2 - M g = 0 \quad \text{--- force balance}$$

$$N_2 = \frac{x}{L} M g$$

$$N_1 = \left(\frac{L-x}{L} \right) M g$$

take these:

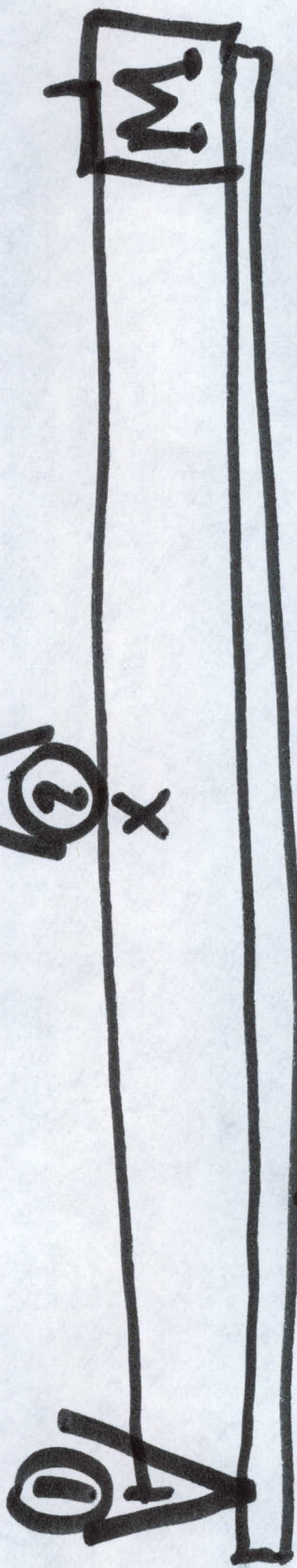
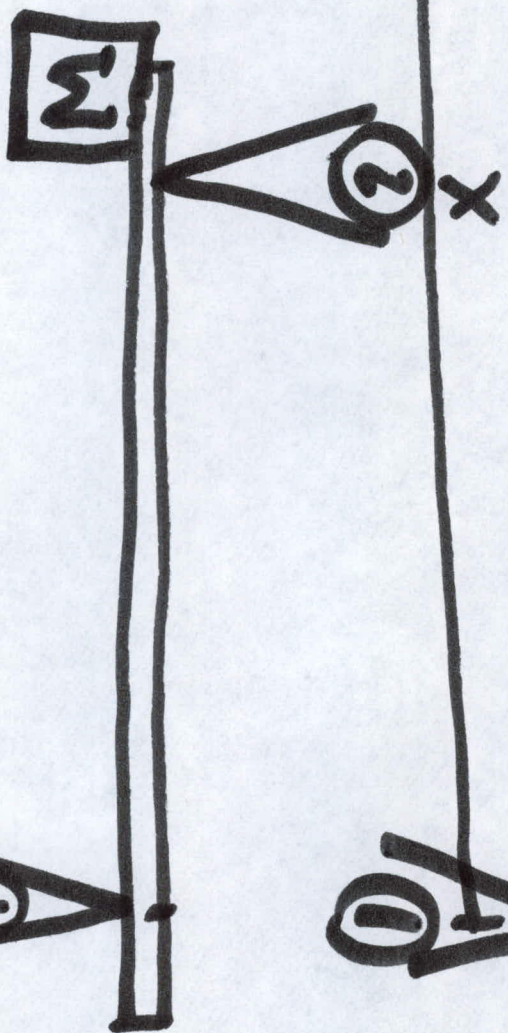
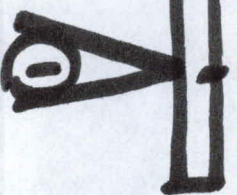
Get these

$$\textcircled{3} \quad x=0 \quad N_1 = M g, \quad N_2 = 0$$

$$x=L \quad N_1 = 0, \quad N_2 = M g$$

$$x = \frac{L}{2} \quad N_1 = \frac{M g}{2}, \quad N_2 = \frac{M g}{2}$$

✓ guessed
✓ over.



$$N_2 = \frac{x}{L} Mg$$

$$N_1 = \left(1 - \frac{x}{L}\right) Mg$$

