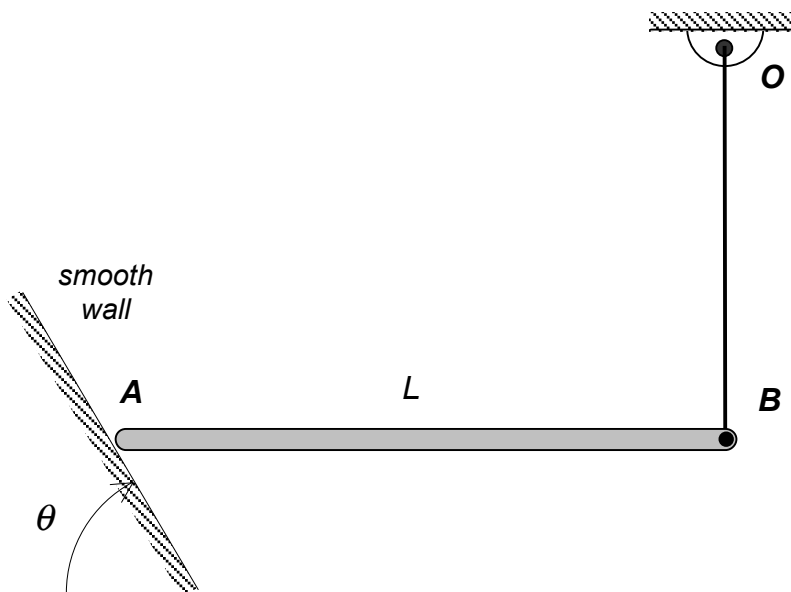


**Homework H.5.D**

**Given:** The homogeneous thin bar AB shown below has a mass of  $M$  and a length of  $L$ . The bar is supported by lightweight, inextensible cable BO at end B and by a smooth, inclined wall at end A. The bar is released from rest with the bar in a horizontal orientation and with cable BO being vertical.

**Find:** Determine the tension in cable BO immediately after the bar is released.



Use the following parameters in your analysis:  $M = 100$  kg,  $L = 3$  m and  $\theta = 53.13^\circ$ .