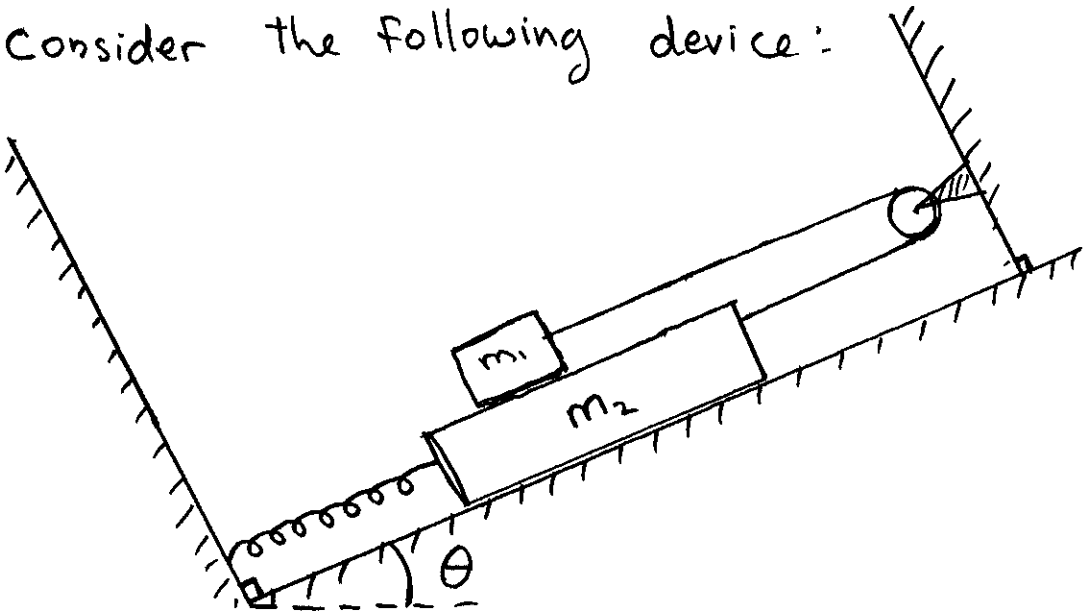
Consider the following device:




The masses, $m_1$ & $m_2$ are known. As well, the angle, $\theta$, and the spring constant, $k$, are known The coefficient of kinetic friction between $m_2$ & the Platform is $\mu_{k_2}$. The coefficient of kinetic friction between $m_1$ & $m_2$ is $\mu_{k_1}$.

The system is released from rest. Assume $m_2$ slides down the incline & the spring is initially unstretched. Calculate the distance that $m_1$ moves before coming to a stop.