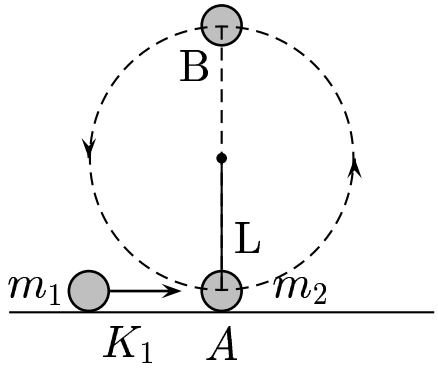
A mass m with initial kinetic energy K_1 is colliding with another equally large m, a pendulum is suspended by a stiff rod of length L.



Determine the minimum value of K_1, so that m_2 can barely pass by the top, point B.

A) $K_1 \geq \dfrac{3\,m\,g\,L}{2}$.

B) $K_1 \geq 2\,m\,g\,L$.

C) $K_1 \geq \dfrac{5\,m\,g\,L}{2}$.

D) $K_1 \geq 3\,m\,g\,L$.

$$K_A + U_A = K_B + U_B \,,$$

with $K_B \simeq 0$, $K_A = U_B - U_A = m\,g\,2\,L$.

So the minimum value of K_1 is $2\,m\,g\,L$.

Answer **B**.

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