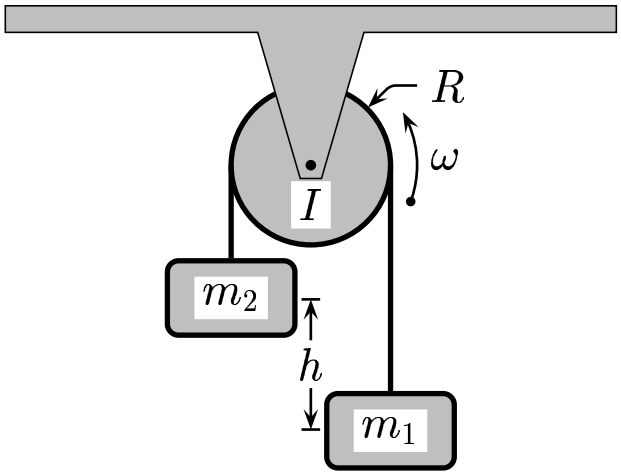


Two masses are connected by a light string passing over a light frictionless pulley.

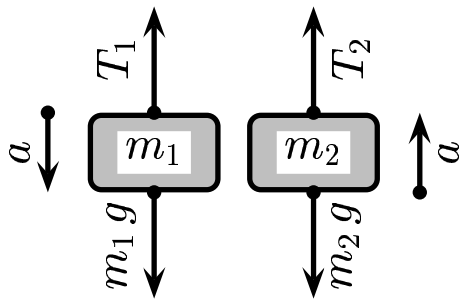
See figure. $m_2 > m_1$.

How much net potential energy of the system is released as the mass m_2 is dropped by a height $\frac{h}{2}$.

A) $U = m_2\, g\, \frac{h}{2}$.

B) $U = (m_2 - m_1)\, g\, \frac{h}{2}$.

C) $U = m_1\, g\, \frac{h}{2}$.



By inspection with a drop of m_2 by the amount of $\frac{h}{2}$, m_1 is raised by $\frac{h}{2}$.

The net potential energy release is $U = (\, m_2 - m_1\,)\, g\, \frac{h}{2}$.

Answer**B**.