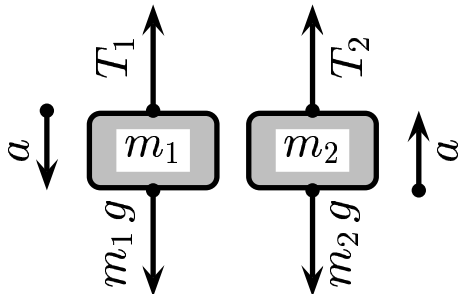


Two masses are connected by a light string passing over a light frictionless pulley.

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**.