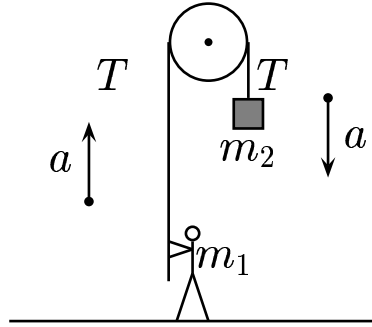


The mass of the worker $m_1 = 50$ kg . The mass of the block at the end of the rope, $m_2 = 100$ kg .



Determine the acceleration.

A) $a = \frac{m_2}{m_1} g = 2g$

B) $a = \frac{m_2 - m_1}{m_1} g = g$

C) $a = \frac{m_2 - m_1}{m_1 + m_2} g = \frac{1}{3} g$

Applying “ $F = ma$ ” on the $m_1 + m_2$ mass system.

The net force is $m_2 g - m_1 g = (m_1 + m_2)a$. This leads to

$$a = \frac{m_2 - m_1}{m_1 + m_2} g = \frac{1}{3} g.$$

Answer **C**.

05.07-08 The ascending worker 2004-3-24