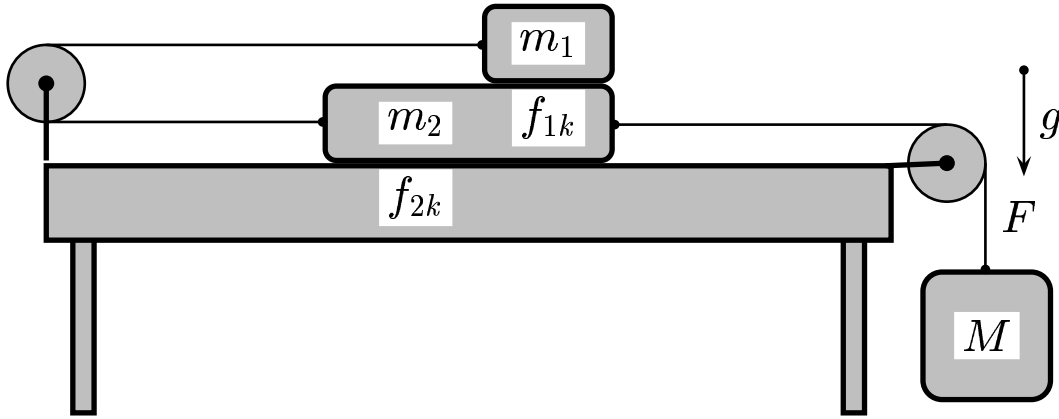


Apply a force  $F = M g$  on the system of  $m_1$  and  $m_2$ . Let the force of friction  $f_{1k}$  and the force of friction  $f_{2k}$ .



The equations of motion are

- A)  $M g - 2 f_{1k} - f_{2k} = (m_1 + m_2 + M) a$  and  $f_{2k} = \mu m_2 g$ .
- B)  $M g - f_{1k} - f_{2k} = (m_1 + m_2 + M) a$  and  $f_{2k} = \mu m_2 g$ .
- C)  $M g - 2 f_{1k} - f_{2k} = (m_1 + m_2 + M) a$  and  $f_{2k} = \mu (m_1 + m_2) g$ .
- D)  $M g - f_{1k} - f_{2k} = (m_1 + m_2 + M) a$  and  $f_{2k} = \mu (m_1 + m_2) g$ .

$$f_{1k} = \mu m_1 g$$

$$f_{2k} = \mu (m_1 + m_2) g$$

$$f_{net} = M g - 2 f_{1k} - f_{2k} = (m_1 + m_2 + M) a$$

Answer **C**.

05.08-04 Pulleys and Blocks 2007-2-13