



Given: k , m_1 , m_2 .
 When m_2 is at a position A , the spring is in its relaxed state. Release m_2 at A , m_1 is moving together with m_2 as m_2 is descending. m_2 stops at B .

The work energy relation from A to B leads to

- A) $m_1 g h = k \frac{h^2}{2} + \mu m_1 g h$.
- B) $m_2 g h = k \frac{h^2}{2} + \mu m_1 g h$.
- C) $(m_1 + m_2) g h = k \frac{h^2}{2} + \mu m_1 g h$.

$$(U_B^g - U_A^g) = m_2 g h,$$

$$(U_B^{sp} - U_A^{sp}) = k \frac{h^2}{2},$$

$$W_{AB}^{dis} = \mu m_1 g.$$

Putting these terms together and rearranging lead to the expression $m_2 g h = k \frac{h^2}{2} + \mu m_1 g h$.

Answer **B**.