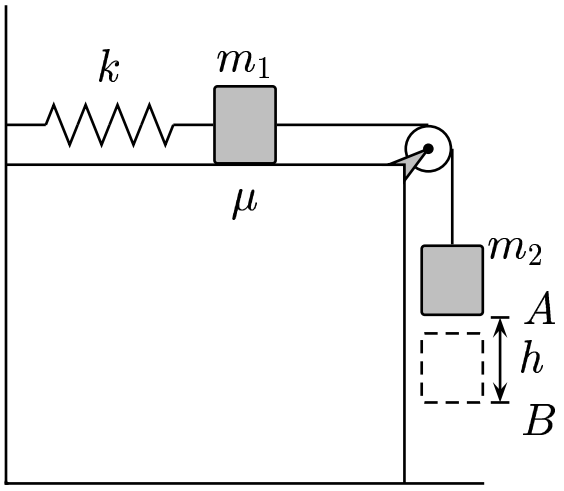

Given: k , m_1 , m_2 . When m_2 is at a position A , the spring is in its relaxed state. Release m_2 at A , m_1 is moving together with m_2 as m_2 is descending. m_2 stops at B .

The work energy relation from A to B leads to

A) $m_1\, g\, h = k\, \dfrac{h^2}{2} + \mu\, m_1\, g\, h\,.$

B) $m_2\, g\, h = k\, \dfrac{h^2}{2} + \mu\, m_1\, g\, h\,.$

C) $(\, m_1 + m_2\,)\, g\, h = k\, \dfrac{h^2}{2} + \mu\, m_1\, g\, h\,.$

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

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

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

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**.

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