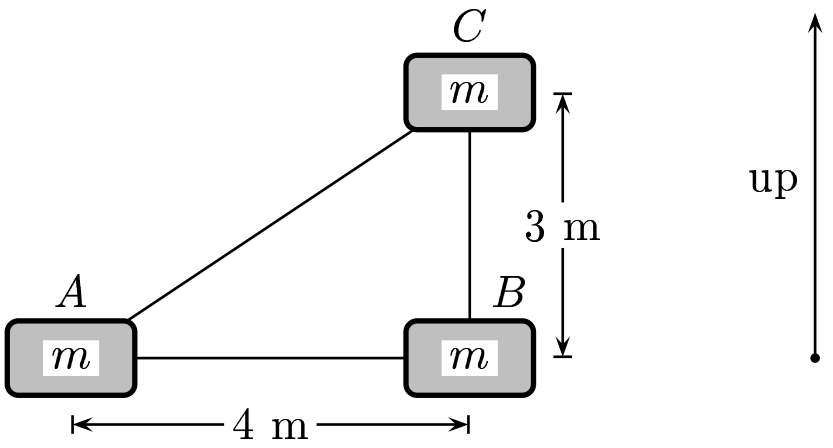
$Work = (\, Force\, parallel\, to\, displacement \,)\,(\, Displacement \,)\,.$

Consider the displacement of the block with $m = 1\,\text{kg}$ from A to B and then to C, where $\overline{AB} = 4\,\text{m}$ and $\overline{BC} = 3\,\text{m}$. Let $g \approx 10\ \text{m/s}^2$.



Which one is correct?

A) $W_{AB} \approx 40\,\text{J}$ and $W_{BC} = 0\,\text{J}$.

B) $W_{AB} = 0\,\text{J}$ and $W_{BC} \approx 30\,\text{J}$.

C) $W_{AB} \approx 40\,\text{J}$ and $W_{BC} \approx 30\,\text{J}$.

Explanation: Note; From A to B there is no displacement parallel to the gravitational force.

So $W_{AB} = (\, m\, g\,)\,(\, 0\,\mathrm{m}\,) = 0\,\mathrm{J}$. $W_{CB} = (\, m\, g\,)\,(3\,\mathrm{m}\,) \approx 30\,\mathrm{J}$.

Answer **B**.

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