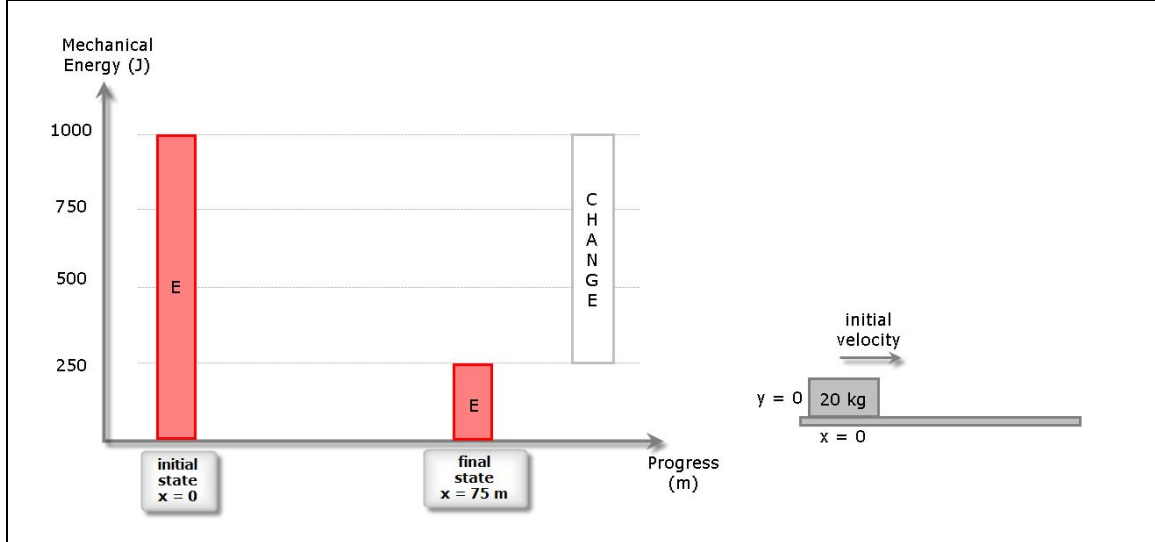


Conceptual Test:
CONSERVATION OF MECHANICAL ENERGY

The motion of a body is represented here as a mechanical energy vs. progress graph.

Try to understand the process described in that graphic and answer the following questions (below)



1 The change in kinetic energy between final and initial states is:

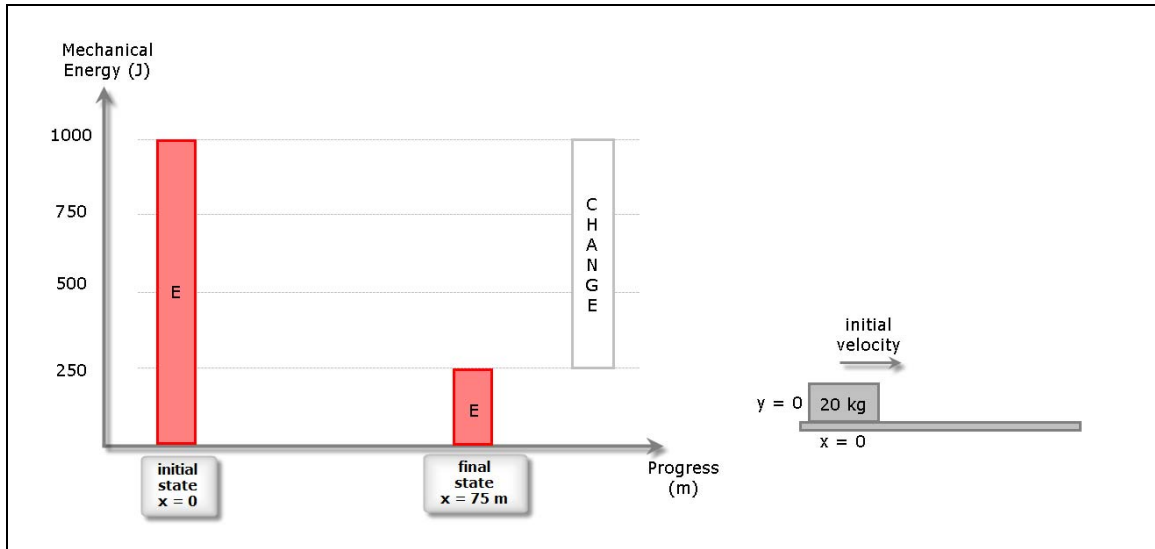
- $\Delta KE = 0$
- $\Delta KE > 0$
- $\Delta KE < 0$

2 The change in potential gravitational energy is

- $\Delta PE = 0$
- $\Delta PE > 0$
- $\Delta PE < 0$

3 The increase in mechanical energy is

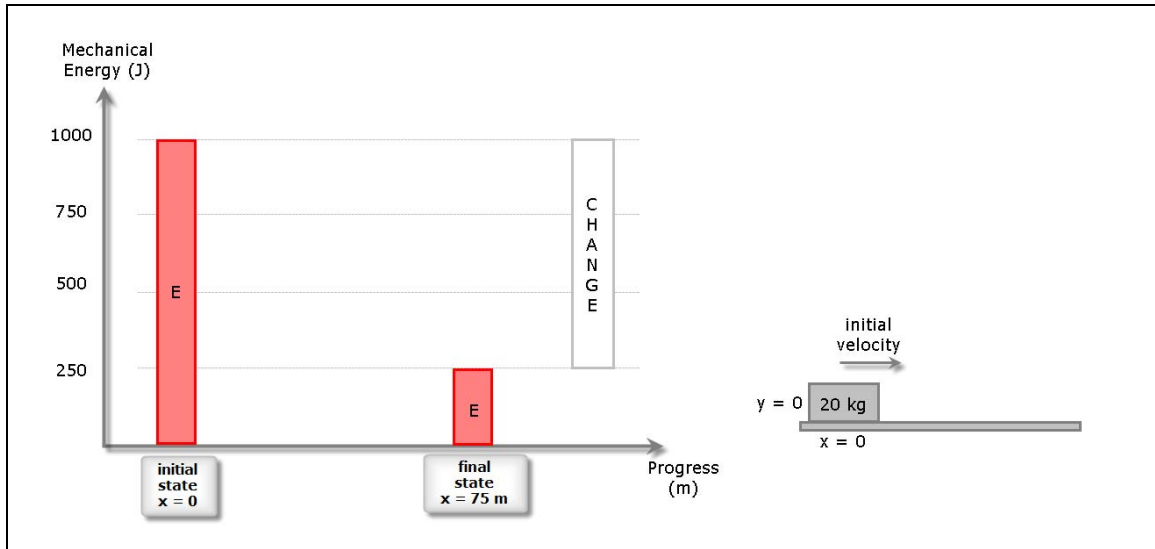
- $\Delta E = 0$
- $\Delta E > 0$
- $\Delta E < 0$



- 4 The total work done is:**
- $W_{\text{TOTAL}} = 0$
 - $W_{\text{TOTAL}} > 0$
 - $W_{\text{TOTAL}} < 0$

- 5 The work $W_{F, Ff}$ done (by non-conservative forces) is:**
- $W_{F, Ff} = 0$
 - $W_{F, Ff} > 0$
 - $W_{F, Ff} < 0$

- 6 The block "change" represents:**
- W_{TOTAL}
 - ΔPE
 - KE_{final}



7 The initial velocity is:

- 20 m/s
- 10 m/s
- 5 m/s

8 The body stops at

- $x = 75$ m
- $x = 100$ m
- $x = 150$ m

9 At $x = 25$ m the kinetic energy is

- KE = 750 J
- KE = 500 J
- KE = 250 J