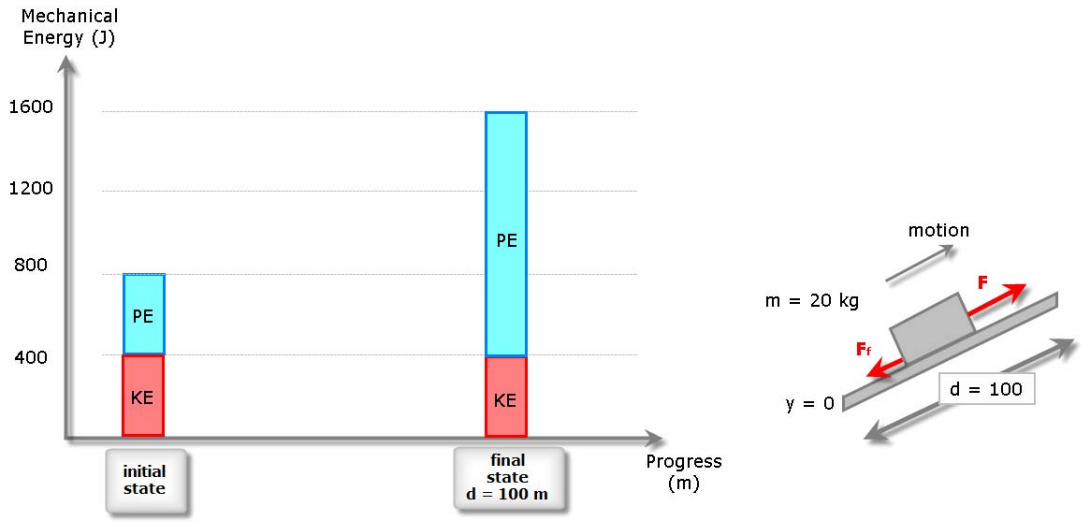
Conceptual Test:
CONSERVATION OF MECHANICAL ENERGY

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 inital 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:

- $W_{TOTAL} = 0$
- $W_{TOTAL} > 0$
- $W_{TOTAL} < 0$

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 net force is:

- $F_{net} = 0$
- $F_{net} > 0$
- $F_{net} < 0$

7	The initial height is:

- h = 4 m
- h = 2 m
- h = 0
- h = unknown

8	The final height is:

- h = 6 m
- h = 8 m
- h = 0
- h = unknown

9	The initial velocity is

- $v_0 = \sqrt{80}$ m/s
- $v_0 = 20$ m/s
- $v_0 = \sqrt{40}$ m/s

10	The final velocity is

- $v = \sqrt{80}$ m/s
- $v = 20$ m/s
- $v = \sqrt{40}$ m/s