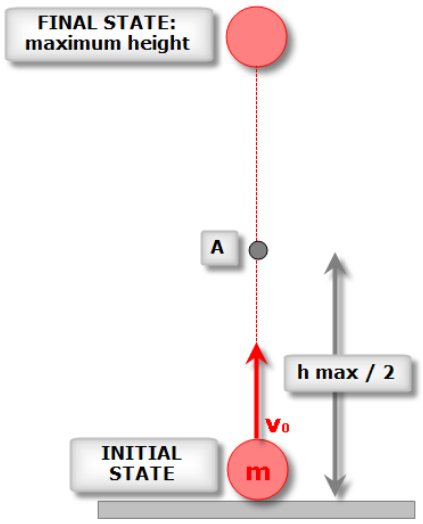
Conceptual Test: ENERGY



(neglect the friction force)

A ball is thrown upwards with an initial velocity of v_0. The mass of the ball is m.

From the sentences below, enclose those that are correct in your opinion and try to explain your reasons.

1 If we compare energies, we see that:

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

2 About the work done by the forces on that body we can say that

- $W_{TOT} = 0$
- $W_{TOT} > 0$
- $W_{TOT} < 0$
- $W_{F,\,Ff} = 0$
- $W_{F,\,Ff} > 0$
- $W_{F,\,Ff} < 0$

3 When the body is at point "A" its potential energy is:

- $PE_A = PE_{final} / 2$
- $PE_A < PE_{final} / 2$
- $PE_A > PE_{final} / 2$
- We cannot relate both energies

4	When the body is at point "A" its kinetic energy is:	
	• $KE_A = KE_{initial} / 2$	• $KE_A = PE_{final} / 2$
	• $KE_A < KE_{initial} / 2$	• $KE_A < PE_{final} / 2$
	• $KE_A > KE_{initial} / 2$	• $KE_A > PE_{final} / 2$

5	When the body is at point "A" its velocity is:
	• $v_A = v_0 / 2$
	• $v_A < v_0 / 2$
	• $v_A > v_0 / 2$