Conservation of Mechanical Energy

(*i.e.* the relationship between E_t , PE and KE)

Max Height = hMass = mVelocity: $v_i = 0$ at *points* A, F, I & v at *points* B, C, G, J



1) What is the general formula that represents the total mechanical energy (E_t) at point B?

Let m = 100 kg, h = 200 m and $g = 9.8 \text{ m/s}^2$:

- 2) What is the numerical value of the total initial mechanical energy in all 3 cases?
- 3) Fill in the following table with the correct numerical values for Potential Energy, Kinetic Energy and velocity of the object at the stated locations. (*Don't forget your Units*!)

	Α	В	С	F	G	Ι	J
PE							
KE							
v							

4) Will it take the same amount of time to reach the bottom in all three cases? Why or Why not? [*If not, List the cases in order at which they arrive at the bottom.*]