Two simultaneous vertically projected bodies

Questions

1. If u_A is twice u_B, does A rise to a height twice of that of B?
2. What is the relative velocity of A w.r.t. B (before any one of them reach the ground)
3. At what instant is the velocity f the centre of mass zero?
4. At what point from the ground is the distance between the maximum?
5. At what instant of time is the distance between them maximum?
6. At what point from the ground is the distance between the minimum?
7. At what instant of time is the distance between them minimum?
8. Plot a graph of relative acceleration of A w.r.t. B (up to the time before one of them hits the ground).
9. Plot a graph of relative velocity of A w.r.t. B (up to the time before one of them hits the ground).
10. Plot a graph of relative displacement of A w.r.t. B (up to the time before one of them hits the ground).

Note :

Questions given above may be visualized and answered using the simulations. Obtaining a mathematical solution is to be always treated as the final answer because such a mathematical solution implies that one is able to understand and apply the concept.

Learn Explore Enjoy

SIGMA Physics resource Centre