

Freely falling body

Questions

1. If height is doubled then is the time of descent also doubled?
2. If height is doubled then is the final velocity also doubled?
3. Is the time taken to cover first half of the distance same as the time required for the second half of the distance ?
4. Is the distance covered in the first half of time same as the distance covered in the second half of the time?
5. Is the increase in velocity in the first half of time same as the increase in velocity in the second half of the time?
6. Is the increase in velocity in the first half of the distance same as the increase in velocity in the second half ?
7. Why is the position of the body (w.r.t. ground) graph not a straight line ?
8. Why is the velocity versus time graph a straight line ?
9. Why is the acceleration versus time graph a “flat” line ?
10. What quantities can be calculated from velocity-time plot ? Are they in agreement with any other graphs in the simulation ?

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.

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