

## Pre-Lab Practice: Free Fall

*Review the Textbook:*

- *PHYS 1401: Serway & Vuille: Chap 2.*
- *PHYS 2425: Serway & Jewett: Chap 2.*

Use  $g = 9.8 \text{ m/s}^2$ . Assume no effect from air resistance.

1. For a ball released from rest (dropped), how much time will it take to fly through first 3.5 meters?  
(0.85 s)
2. A ball is thrown upward with an initial speed of 5.4 m/s. How far up will it rise?  
(1.5 m)
3. A ball is thrown upward with an initial speed of 5.4 m/s. How much time will it take to reach the top point of the motion?  
(0.55 s)
4. A ball is thrown downward with an initial speed of 0.40 m/s. How far will it travel during first 2.1 seconds?  
(22 m)
5. An object is constantly accelerated from rest. If it reaches a distance of 2.8 meters in 1.2 seconds, what is the acceleration?  
(3.9 m/s<sup>2</sup>)
6. A ball is thrown upward with an initial speed of 5.4 m/s. How long it will take the ball to return to the starting point?  
(1.1 s)
7. A ball dropped from the roof of a building reached the ground in 3 seconds. How tall is the building?  
(44.1 m)