

Motion Problems II – Free Fall

1. A ball is dropped from 2 meters above the ground. How fast is it traveling immediately before it hits the ground?

2. Vaughn throws a ball directly up in the air with an initial speed of 25 m/s.
 - a. How high does the ball go above his release point?
 - b. How long is the ball in the air?

3. Maggie has a vertical leap of 1.0 meters. How fast is she traveling when she leaves the ground?

4. Yeongsoo is standing by a window when he sees a ball travel straight up past the window. 2.5 seconds later, the ball came back down past the window.
 - a. How fast was the ball traveling when it first reached his window?
 - b. How high did the ball go above his window?

5. Lindsay is riding in the power tower. She is traveling upward at 15 m/s, 20 m above the ground when her shoe comes off.
 - a. How long will it take for her shoe to reach the ground?
 - b. How fast will it be traveling?
 - c. How far will the shoe have traveled from the time it leaves her foot until it reaches the ground?