

### Answer on Question #68356-Physics-Mechanics-Relativity

A balloon is flying upward the velocity of 2 meter per second. Two stones are left from the balloon at time interval of 2 second. After 1 second when second stone is left then what is the distance between both stones?

#### Solution

We use the height as a distance from the initial point of a balloon.

$$h_2 = h_0 + vt - \frac{gt^2}{2}$$

$$t = 1s, v = 2 \frac{m}{s}, g = 10 \frac{m}{s^2}.$$

$$h_0 = vt' = (2)(2) = 4 m.$$

$$h_2 = 4 + (2)(1) - \frac{10}{2}(1)^2 = 1 m.$$

$$h_1 = vt - \frac{gt^2}{2}$$

$$t = 3s, v = 2 \frac{m}{s}, g = 10 \frac{m}{s^2}.$$

$$h_2 = (2)(3) - \frac{10}{2}(3)^2 = -39 m.$$

The distance between both stones is

$$h_1 - h_2 = 1 - (-39) = 40 m.$$

**Answer: 40 m.**

Answer provided by <https://www.AssignmentExpert.com>