

Two bodies of different masses  $M_a$  and  $M_b$  are dropped from two different heights, i.e.  $a$  and  $b$ . The ratio of time periods taken by two masses to drop through these distances is..... ?

Answer:

At a free falling time of falling depends on height and does not depend on a mass of bodies.

$H = gt^2/2$  where  $g=9,8\text{m/sec}^2$ -acceleration of free falling. Therefore

$$t = \sqrt{\frac{2H}{g}}$$

$$\frac{t_1}{t_2} = \sqrt{\frac{H_1}{H_2}}$$