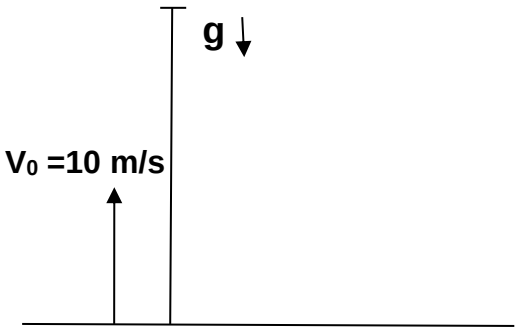
Question #60703, Physics – Mechanics | Relativity

Toss a ball upward with an initial speed of 10 m/s. Neglecting air resistance, the time it takes to reach its release point is about.

(a) 4 s (b) 1 s (c) 3 s (d) 2 s

Solution



The equation of uniformly accelerated motion of the body thrown up:

$$0 = v_0 - gt$$

Where ***t*** – the time ascent to the max height

$$v_0 = gt$$

$$t = \frac{v_0}{g}$$

$$t = \frac{10\ m/s}{9{,}8\ m/s^2} \approx 1s$$

Since the acceleration is constant, the time during which the body rises equal to the time of its descent.

Scilicet **T= 2 s**

Answer the questions:

The time it takes to reach its release point is about (d) 2 s.