

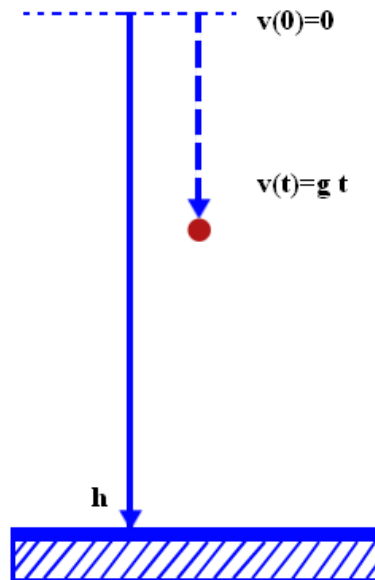
Answer on Question #71443, Physics / Mechanics | Relativity

How far does an object fall during the eight seconds?

Solution:

Free fall as the word states is body falling freely due to the gravitational pull of the earth.

Consider a body falling freely from height h with velocity v for time t seconds due to gravity g .



Free Fall Formula is

$$h = \frac{1}{2} g t^2$$

where h is distance and $g = 9.81 \text{ m/s}^2$ is acceleration.

Free fall is independent of the mass of the body. It only depends on height and time period for which body is thrown.

So,

$$h = 0.5 \times 9.81 \times 8^2 = 313.92 \text{ m} \approx 314 \text{ m}$$

Answer: 314 m

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