2021 Ph H1 Q1

Section: Our Dynamic Universe
Topic: Motion, Equations and Graphs

Question Summary

A ball is dropped from rest. It falls for **0.40 s** (ignore air resistance).
What is the height h it falls through?

✅ Final Answer:

B. 0.78 m

Working

Use

$$s = \frac{1}{2}gt^2$$

where $g = 9.8\,\text{ms}^{-2}$ and $t = 0.40\,\text{s}$.

$s = 0.5 \times 9.8 \times 0.40^2 = 4.9 \times 0.16 = 0.78\,\text{m}.$

Quick Tips

- For vertical free fall, $u = 0$.
- Distance fallen is proportional to t^2.
