🧪 **2017 Ph H1 Q1**

Section: Our Dynamic Universe

Topic: Motion, Equations and Graphs

Question Summary

The velocity-time graph shows that an object's velocity increases from **5 m s⁻¹** to **10 m s⁻¹** over **6.0 s**.
What is the object's acceleration?

✅ Final Answer:

A. 0.83 m s⁻²

Working

Use the formula:

$$a = \frac{v - u}{t}$$

Where:

- $v = 10\,\text{ms}^{-1}$
- $u = 5\,\text{ms}^{-1}$
- $t = 6.0\,\text{s}$

Substitute:

$$a = \frac{10 - 5}{6.0} = \frac{5}{6.0} = 0.83\ \text{ms}^{-2}$$

Quick Tips

- Acceleration = **gradient of a v–t graph**
- Always estimate values **carefully** from the graph axes
- Watch out for **units** and **significant figures** — they count in multiple choice!
