6th edition

Hint 3.4

Given a graph you must calculate the slope at that point.

For $m = \frac{m_0}{\sqrt{1-(v^2/c^2)}}$ rewrite it so that you can see the function and coefficients

$$m = m_0 \left(1 - \frac{1}{c^2} v^2 \right)^{-\frac{1}{2}}$$

now find the derivative.

#82 $V(x) = x^2 + 3x - 2$ $V$ is a function with respect to $x$. And $V$ is velocity.

Acceleration is a function with respect to time

$$\text{Acceleration} = \frac{dV}{dt} = \frac{dV}{dx} \cdot \frac{dx}{dt}$$

And what was given is $\frac{dx}{dt}$ is the velocity $V(x)$

So acceleration is $\frac{dV}{dx} \cdot V(x)$