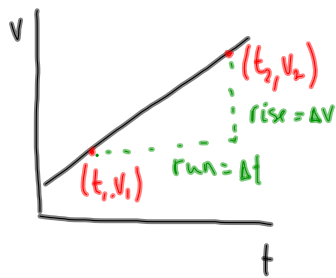


Review of Acceleration



$$\text{slope} = \frac{\text{rise}}{\text{run}}$$

$$\text{slope} = \frac{\Delta v}{\Delta t}$$

But the slope on a v-t graph is acceleration

$$a = \frac{\Delta v}{\Delta t}$$

Note that acceleration is a vector, but there vector term for acceleration. Always include a direction if any direction has been implied.

$$\left(\begin{array}{l} \text{use this} \\ \text{if no dir} \end{array} \right) a = \frac{\Delta v}{\Delta t} \quad \vec{a} = \frac{\Delta \vec{v}}{\Delta t} \quad \left(\begin{array}{l} \text{use this if} \\ \text{there is} \\ \text{direction} \end{array} \right)$$

You should be able to use the equation to rearrange

$$a = \frac{\Delta v}{\Delta t}$$

$$a = \frac{v_f - v_i}{\Delta t}$$

$$\text{Solving for } v_i: a \Delta t = v_f - v_i$$

$$-v_f + a \Delta t = -v_i$$

$$v_i = v_f - a \Delta t$$