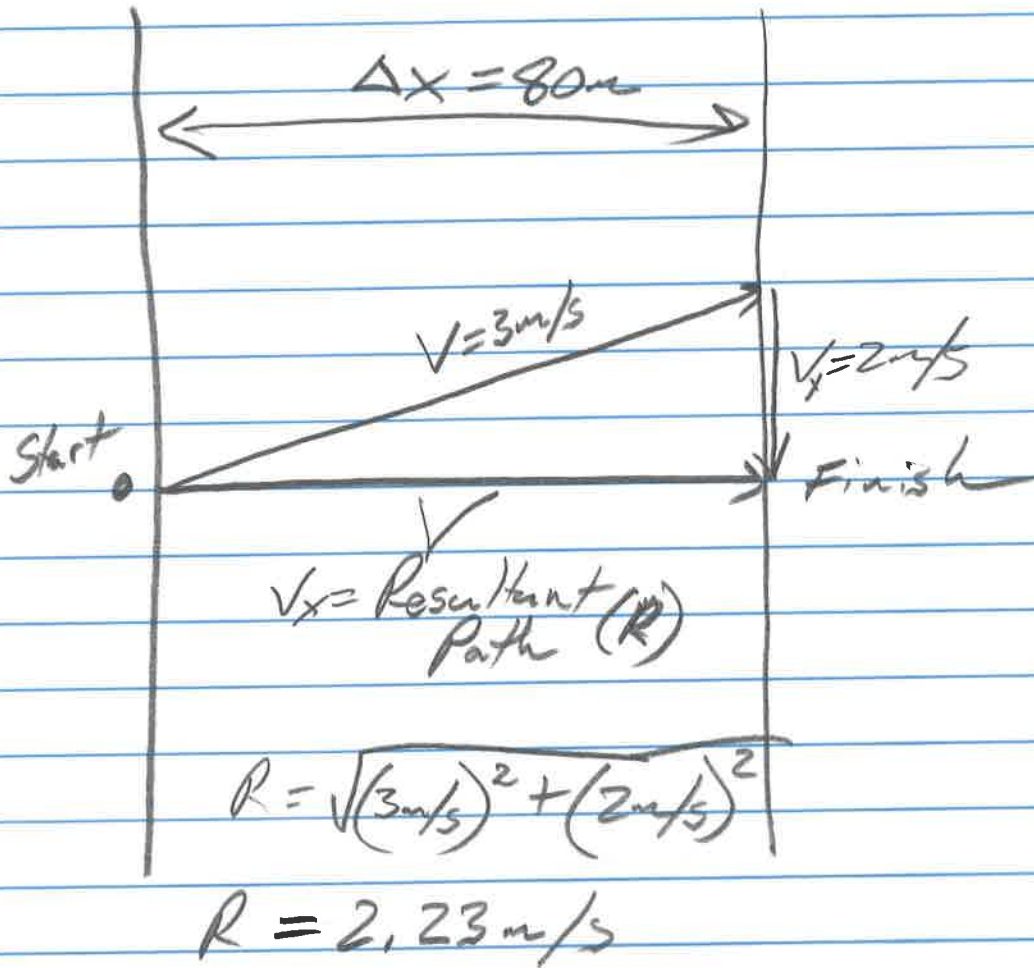


Classic River problem

Jane's Method:

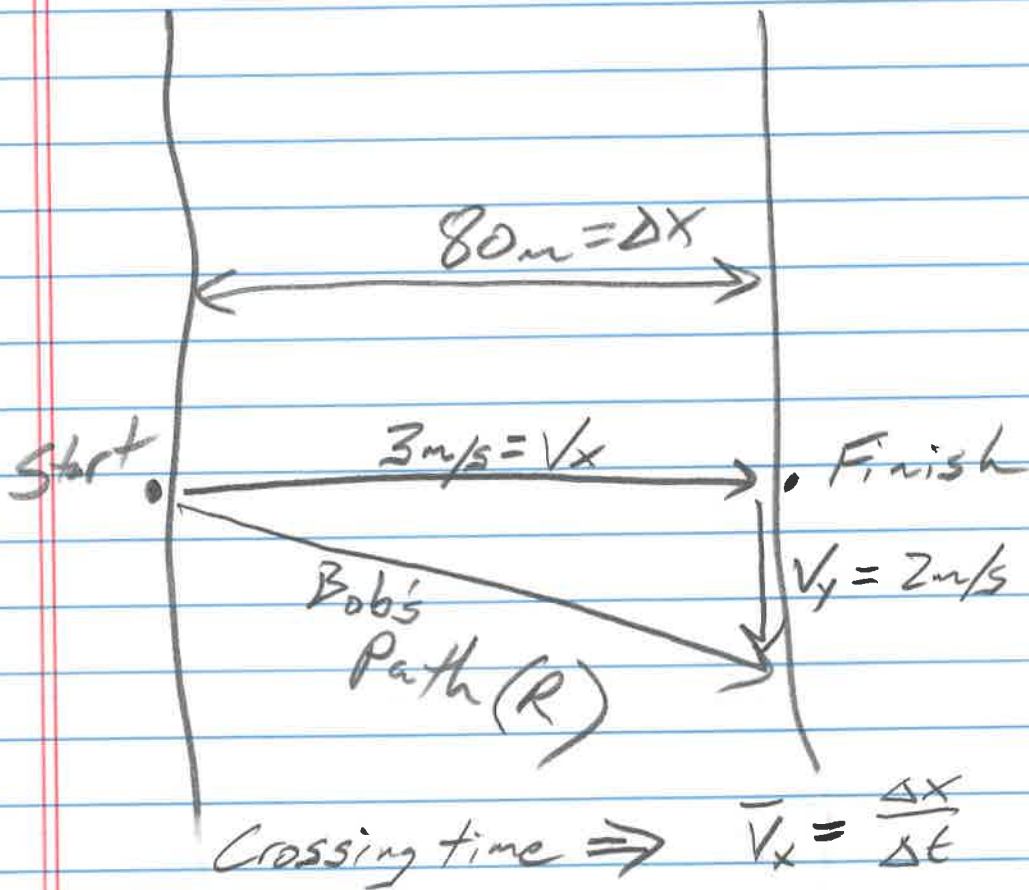


$$\bar{v} = \frac{\Delta x}{\Delta t} \quad 2.23m/s = \frac{80m}{t}$$

$$t = \frac{80m}{2.23m/s} = 35.8s$$

Classic River Problem

Bob's Method



$$3\text{m/s} = \frac{80\text{m}}{t}$$

$$\text{Crossing time} = \frac{80\text{m}}{3\text{s}} = 26.7\text{s}$$

$$\text{Down river Drift Distance} \Rightarrow \bar{v} = \frac{\Delta y}{\Delta t} \Rightarrow 2\text{m/s} = \frac{\Delta y}{26.7\text{s}}$$
$$\Delta y = 53.3\text{m}$$

$$\text{Time to walk up river} \Rightarrow \bar{v} = \frac{\Delta y}{\Delta t} \quad 4\text{m/s} = \frac{53.3\text{m}}{\Delta t}$$

$$\text{Total time} = 26.7\text{s} + 13.3\text{s} = 40\text{s} \quad \Delta t = 13.3\text{s}$$