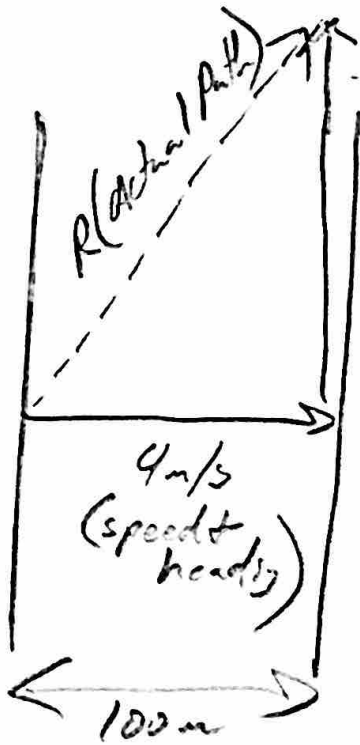


2.



7m/s (current)

$$a. R = \sqrt{(7\text{m/s})^2 + (4\text{m/s})^2}$$

$$R = 8.1\text{m/s}$$

$$b. \bar{V}_x = \frac{\Delta x}{\Delta t} \quad (\text{or } r = \frac{d}{t})$$

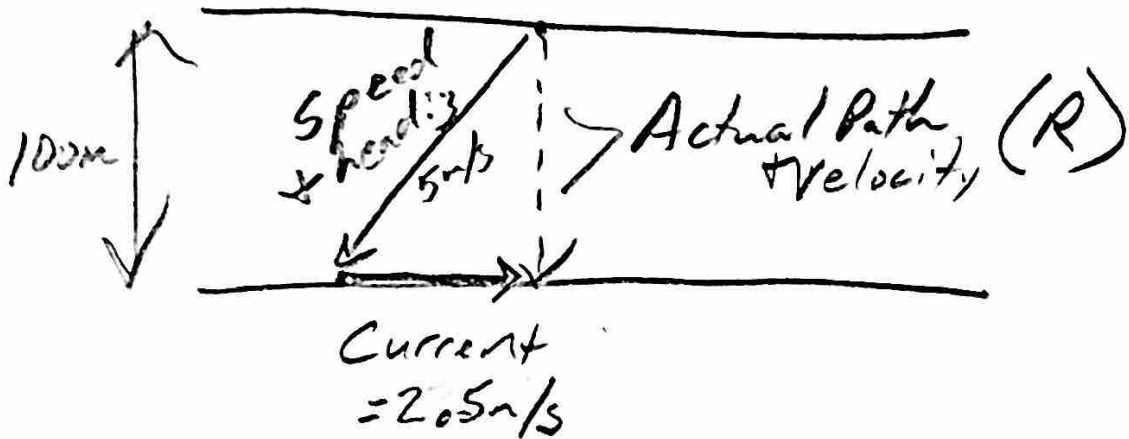
$$4\text{m/s} = \frac{100\text{m}}{\Delta t} \Rightarrow \Delta t = 25\text{s}$$

$$c. \bar{V}_y = \frac{\Delta y}{\Delta t} \quad (\text{or } r = \frac{d}{t})$$

$$-7\text{m/s} = \frac{\Delta y}{25\text{s}} \Rightarrow \Delta y = -175\text{m}$$

$$d = 175\text{m}$$

3.



$$R = \sqrt{(5 \text{ m/s})^2 - (2.5 \text{ m/s})^2} = 4.33 \text{ m/s}$$

$$\bar{v}_y = \frac{\Delta y}{\Delta t}$$

$$4.33 \text{ m/s} = \frac{100 \text{ m}}{\Delta t}$$

$$\Delta t = 23.1 \text{ s}$$