

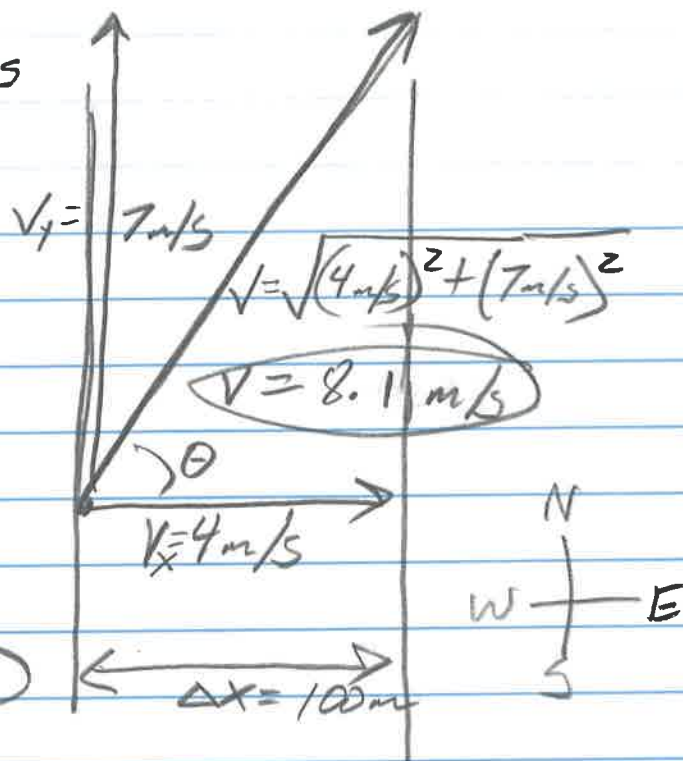
5. All more river problems

2. a. 8.1 m/s

$$\tan \theta = \frac{7 \text{ m/s}}{4 \text{ m/s}}$$

$$\theta = \tan^{-1} \left(\frac{7 \text{ m/s}}{4 \text{ m/s}} \right)$$

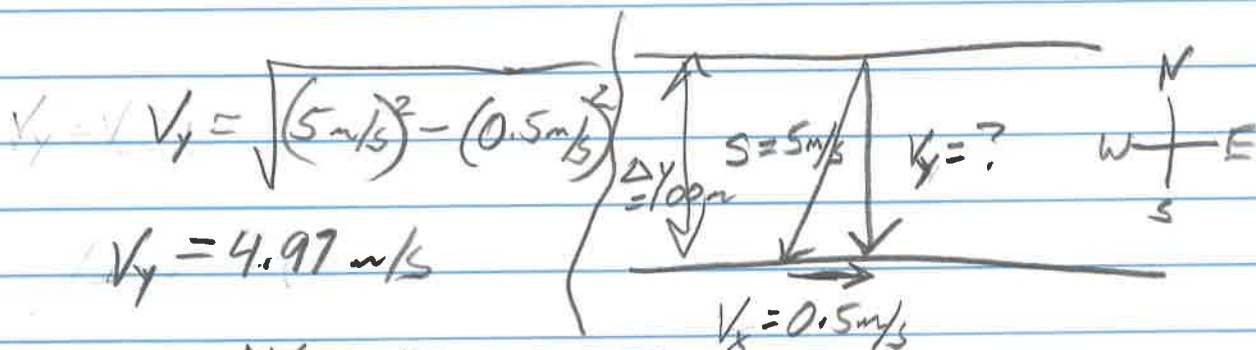
$\theta = 60^\circ \text{ N of E}$



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

c. $\Delta y = (v_y)(\Delta t) = (7 \text{ m/s})(25 \text{ s}) = 175 \text{ m}$

3.



$$\Delta t = \frac{\Delta y}{v_y} = \frac{100 \text{ m}}{4.97 \text{ m/s}} = 20.1 \text{ s}$$