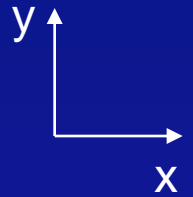
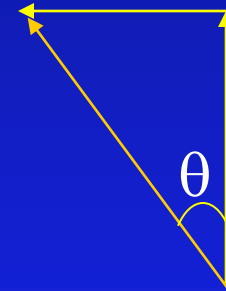


# Swimmer Example



What angle should Ann take to get directly to the other side if she can swim 5 mph relative to the water, and the river is flowing at 3 mph?

$$\mathbf{V}_{\text{Ann,ground}} = \mathbf{V}_{\text{ann,water}} + \mathbf{V}_{\text{water,ground}}$$



## x-direction

$$0 = V_{x,\text{Ann,Water}} + 3$$

$$0 = -V_{\text{Ann,Water}} \sin(\theta) + 3$$

$$5 \sin(\theta) = 3$$

$$\sin(\theta) = 3/5$$

