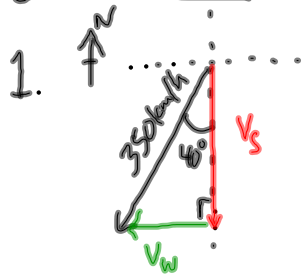


Quiz Corrections



$$\cos \theta = \frac{\text{adj}}{\text{hyp}}$$

$$\cos 40^\circ = \frac{V_s}{350 \text{ km/h}}$$

$$\rightarrow V_s = (350 \text{ km/h}) \cos 40^\circ$$

$$V = 268 \text{ km/h}$$

$$2.7 \times 10^2 \text{ km/h}$$

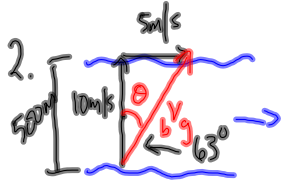
$$\sin \theta = \frac{\text{opp}}{\text{hyp}}$$

$$\sin 40^\circ = \frac{V_w}{350 \text{ km/h}}$$

$$V_w = (350 \text{ km/h}) \sin 40^\circ$$

$$V_w = 225 \text{ km/h}$$

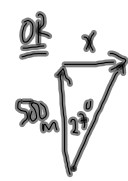
$$2.25 \times 10^2 \text{ km/h}$$



a) 11 m/s [63° to the shore headed downstream]

c)  $\vec{V}_{\text{downstream}} = \frac{\Delta d_{\text{downstream}}}{\Delta t}$

b)  $\vec{V}_{\text{across}} = \frac{\Delta d_{\text{across}}}{\Delta t}$  ← directions must match



$$\Delta d_{\text{downstream}} = (5 \text{ m/s})(50 \text{ s}) = 250 \text{ m}$$

$$10 \text{ m/s} = \frac{500 \text{ m}}{\Delta t}$$

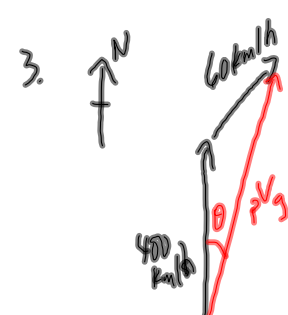
$$\Delta t = 50 \text{ s}$$



head upstream at 60° to the shore

$$\Delta t = \frac{\Delta d_{\text{across}}}{V_{\text{across}}}$$

$$\Delta t = \frac{500 \text{ m}}{8.7 \text{ m/s}} = 58 \text{ s}$$



Law of Cosines to find pV\_g:

$$c^2 = a^2 + b^2 - 2ab \cos C$$

$$c = 444 \text{ km/h}$$

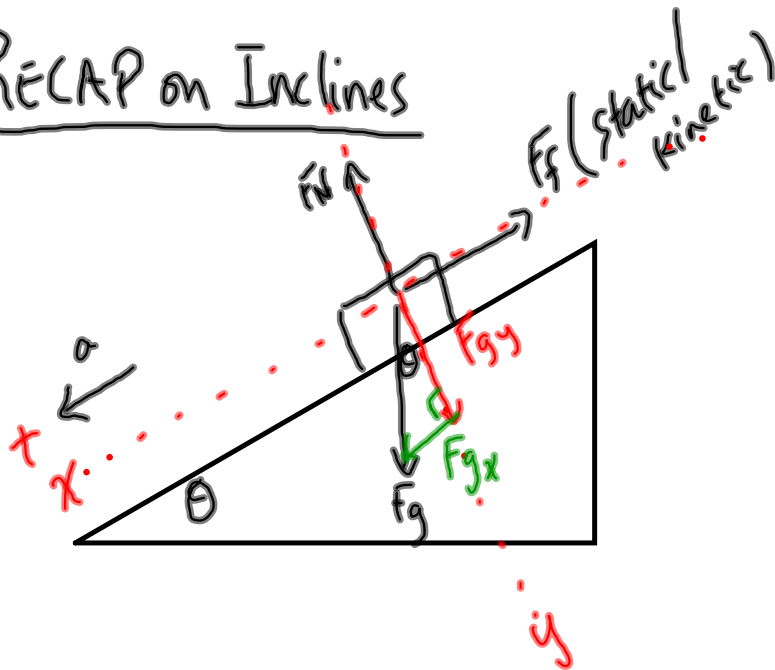
Law of Sines to find theta:

$$\frac{a}{\sin A} = \frac{b}{\sin B}$$

$$\theta = 5.5^\circ$$

$$pV_g = 444 \text{ km/h [N } 5.5^\circ \text{ E]}$$

## RECAP on Inclines



### TO DO:

- ① Incline PP on sheet
- ② Book PP/467 - already assigned.
- ③ Work on lab