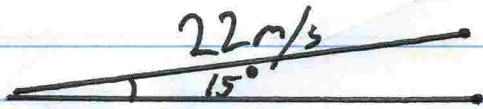


### #3) Resolving Vectors Continued 3B pg 94



Find X + Y components.

$$X = R \cdot \cos \theta$$

$$Y = R \cdot \sin \theta$$

$$R = 22 \text{ m/s}$$

$$\theta = 15^\circ$$

$$X = R \cdot \cos \theta$$

$$X = 22 \text{ m/s} (\cos 15^\circ)$$

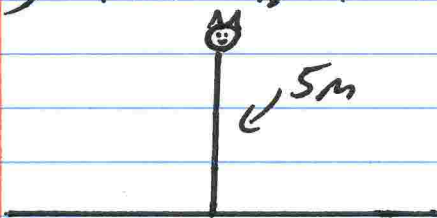
$$[X = 21 \text{ m/s}]$$

$$Y = R \cdot \sin \theta$$

$$Y = 22 \text{ m/s} \cdot \sin 15^\circ$$

$$[Y = 5.7 \text{ m/s}]$$

#4) Find ~~the~~ X + Y displacement

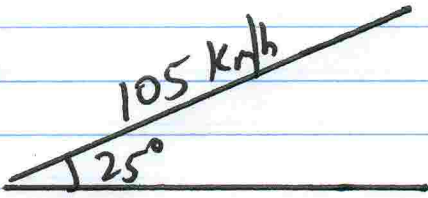


$X = 0\text{m}$  Why? Cat did not move in X-axis. Just ↑

$Y = 5\text{m}$  Why? Cat displacement was only in Y axis

# Resolving Vectors pg 94 3B

#1)



How fast?

Truck travels on X-axis. Use trig to solve for speed.

$$X = R \cdot \cos \theta$$

$$R = 105 \text{ km/h}$$

$$\theta = 25^\circ$$

$$X = ?$$

$$X = R \cdot \cos \theta$$

$$X = 105 \text{ km/h} \cdot \cos(25^\circ)$$

$$X = 95 \text{ km/h}$$

#2)

Find vertical component.

Use trig. to find Y speed velocity.

$$Y = R \cdot \sin \theta$$

$$R = 105 \text{ km/h}$$

$$\theta = 25^\circ$$

$$Y = ?$$

$$Y = R \cdot \sin \theta$$

$$Y = 105 \text{ km/h} (\sin 25^\circ)$$

$$Y = 44 \text{ km/h}$$