


## Homework



$$V^2 = V_w^2 + V_B^2 \quad V = |\vec{V}|$$

$$= (1.00 \frac{m}{s})^2 + (0.50 \frac{m}{s})^2$$

$$= 1.25 \frac{m^2}{s^2}$$

$$V = 1.12 \frac{m}{s}$$

$$\vec{V} = 1.12 \frac{m}{s} @ 27^\circ \text{ to wind}$$

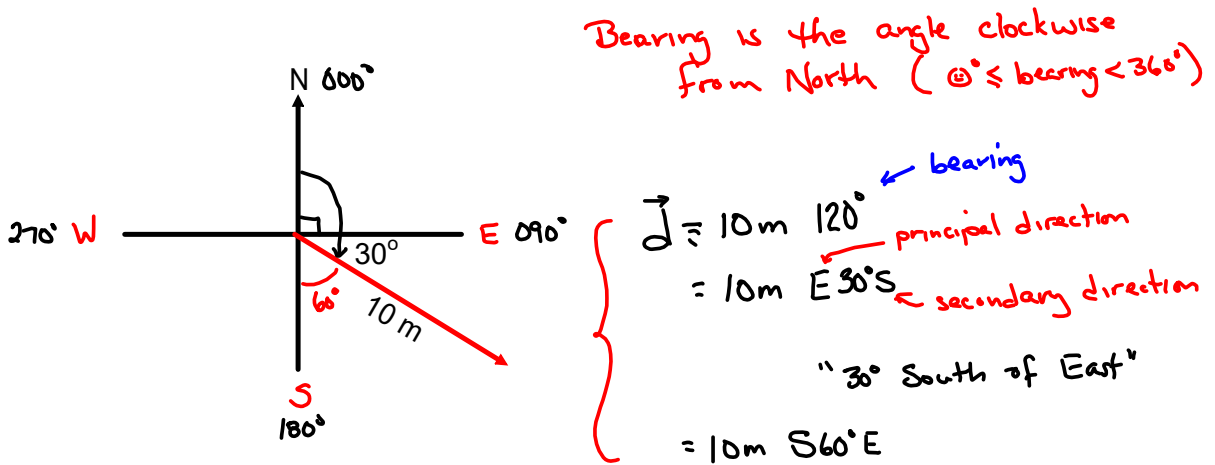
or @  $63^\circ$  to direction the bee is headed.

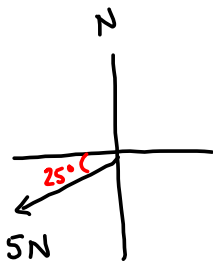
$$\tan \theta = \frac{0.50}{1.00}$$

$$\theta = \underline{27^\circ}$$

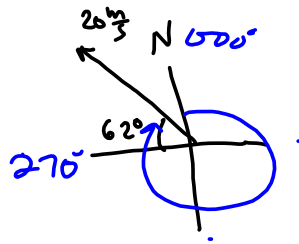
## Bearings

Bearings are a means of describing a direction on the surface of the Earth, using a standard N-E-S-W grid. While we can use terms such as South-East, that only applies to a very specific direction.

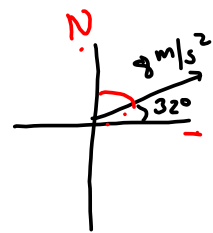




$\vec{F}$  = SN 24S°  
 SN W25°S  
 SN S65°W



$\vec{v}$  =  $20 \frac{m}{s}$  N28°W  
 $20 \frac{m}{s}$  332°  
 $20 \frac{m}{s}$  W62°N



$\vec{a}$  =  $8 \frac{m}{s^2}$  058°  
 =  $8 \frac{m}{s^2}$  N58°E  
 E32°N

Homework: Questions 3, 4, 6-9 on Vector Addition Sheet

Note: # 8 an East wind blows from the East  
toward the West