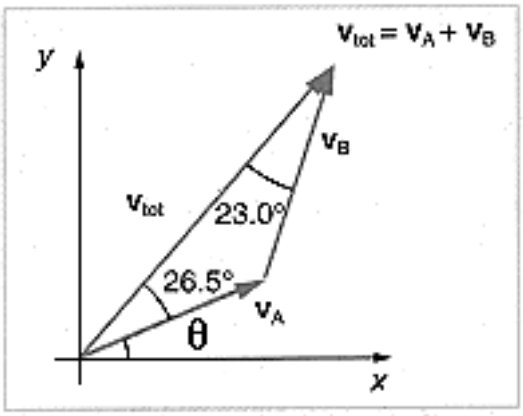
Answer on Question #63190-Physics-Other

Find the components of vtot along the x and y axes in Figure 3.25, where θ = 20.5° and vtot = 6.84 m/s.

Solution



The x-component:

$$v_{totX} = v_{tot}\cos(26.5 + \theta) = 6.84\cos(26.5 + 20.5) = 6.84\cos(47) = 4.66\frac{m}{s}.$$

The y-component:

$$v_{totY} = v_{tot}\sin(26.5 + \theta) = 6.84\sin(26.5 + 20.5) = 6.84\sin(47) = 5.00\frac{m}{s}.$$