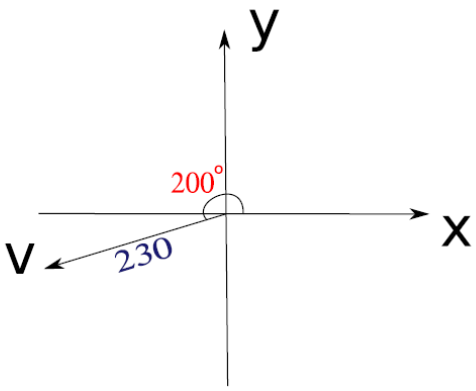
Answer on Question #46806-Physics-Mechanics-Kinematics-Dynamics

Represent the given velocity $v = 230\frac{km}{h}$ in the direction $\alpha = 200$ degrees.

Solution

The vector $\bar{v}$ is shown in the following figure:



We should find coordinates $(v_x;\ v_y)$ of its end. By definition

$$v_x = v\cos\alpha;\ v_y = v\sin\alpha.$$

Substituting values we get

$$v_x = 230\cdot\cos 200 = -216.13\frac{km}{h};$$

$$v_y = 230\cdot\sin 200 = -\,78.67\frac{km}{h}.$$

Thus $\bar{v} = \left(\mathbf{-216.13}\frac{\boldsymbol{km}}{\boldsymbol{h}}; \mathbf{-78.67}\right)\frac{\boldsymbol{km}}{\boldsymbol{h}}$.