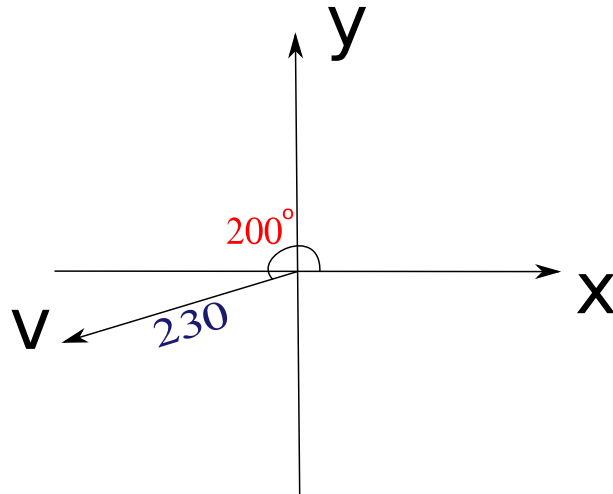**Task.** Represent the given velocity $v = 230$ km/h in the direction $\alpha = 200$ degrees.

Solution. The vector v is shown in the following figure:

We should find coordinates (v_x, v_y) of its end. By definition

$$v_x = v \cos \alpha, \qquad v_y = v \sin \alpha.$$

Substituting values we get

$$v_x = v \cos \alpha = 230 * \cos 200° = 230 * (-0.93969) = -216.13 \ km/h,$$

$$v_y = v \sin \alpha = 230 * \sin 200° = 230 * (-0.34202) = -78.665 \ km/h.$$

Thus $v = (-216.13, -78.665)$.