Physics 341 Sage Assignment 4

S1. For this assignment, you can adapt my notebook on 2D collisions that I used in the lecture, and also uploaded to your projects page.

Consider a collision between two particles with masses m_1 and m_2, with $m_1 = 2m_2$. Before the collision, particle 1 is moving towards particle 2 with velocity $\vec{v}_1$, while particle 2 is stationary. After the collision, particle 1 moves off at an angle of $25°$ with respect to its original direction.

Calculate the angle that particle 2 makes with particle 1's original direction after the collision. Calculate also the velocities of the two particles after the collision, in terms of v_1.

Is it still true in this case that $\vec{v}_1' \cdot \vec{v}_2' = 0$?