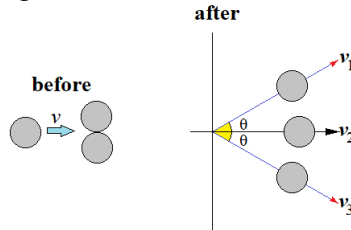


Physics I

Scattering

Problem 1.- A ball with initial velocity v collides elastically and symmetrically with two other identical balls, which are initially at rest. Calculate the velocity of the three balls after the collision if there is no friction during the collision.



Problem 2.- An alpha particle (mass = 4 amu) initially moving at 3,000 m/s horizontally to the right is scattered at 90 degrees off a carbon nucleus (mass = 12 amu) initially at rest. Calculate the velocities of the two particles after the collision.