

Chapter C5: Conservation of Momentum Practice

Physics I

College of the Atlantic

Two different pucks are sliding along a sheet of smooth ice. One puck is heading due north at 3 m/s, the other due west at 5 m/s. The westward-moving puck is 2 times as massive as the northward-moving puck. The pucks collide and stick together.

1. What is their velocity after this collision? Give both the components and the magnitude and direction of the velocity.
2. Suppose that you wanted the two pucks to move in a direction 60 degrees north of east after they collide. What would the speed of the lighter puck need to be in order for this to happen?