**Problem 1** (10 pts)
A ball of mass 1 kg moving at speed 6 m/s in the +x direction collides with a 1 kg ball
that is at rest. The balls stick together after the collision.
(a) Find the speed of the balls after the collision.
(b) Explain how energy conservation holds.
(c) Explain how momentum conservation holds.


**Problem 2** (10 pts)
Consider the process of Problem 1 as seen from a reference frame S' that is moving at
speed 3m/s in the +x direction.
(a) What are the initial velocities of the two balls in S'?
(b) What is the final velocity of the balls in S'?
(c) Explain how momentum conservation holds in S'.
(d) Explain how energy conservation holds in S'.