Ch. 8 Worksheet

1. A 15 kg block, initially at rest, compresses a spring 2.5 cm. The spring is then released pushing the block forward across a frictionless table. 1.5 m in front of the block sits another block, which has a mass of 10 kg. The two blocks collide and stick together moving forward with some velocity, i.e. a completely inelastic collision.
    a. Determine the final velocity of the two blocks.
    b. What would be their final velocity if the collision was completely elastic?

2. A 4.0 kg mess kit sliding on a frictionless surface explodes into two 2.0 kg parts: 3.0 m/s due north and 5.0 m/s 30˚ north of east. What is the original speed of the mess kit?