An 1 kg arrow is fired into and sticks in a 10 kg wooden block on a frictionless surface. If the arrow and block are moving with a velocity of 2 m/s after they collide, what was the initial speed of the arrow?

An 1 kg arrow is fired into and sticks in a 10 kg wooden block on a surface where the coefficient of kinetic friction is 0.4. If the block and arrow move 10 m after the arrow strikes it, what was the initial velocity of the arrow?

A car with mass 2000 kg moving south at 5 m/s is struck by another car with mass 2500 kg moving east moving at 6 m/s. What direction (angle from N) does the two car collision move in and at what speed?

A car with mass 2000 kg moving south by another car with mass 2500 kg moving east. After they collide, the two car collision moves south east at an angle of 30 degrees from south at 5 m/s. What was the initial speeds of the two cars?