Notes:

9.5 Inelastic Collisions

Perfectly inelastic collision- two objects become one and have one velocity

 (example- railroad cars)

9.6 Momentum & Collisions in Two Dimensions

Total momentum (P)= mv

\*Total momentum is conserved only if each component of P is conserved

**Example- 9.9 recap**

(Px)i=

(m1)(v1)i + (m2)(v2)i= (m1)(-v1) (cos ) + m2(-v2)

(Py)i=

(m1)(v1)i + (m2)(v2)i= (m1)(-v1) (sin ) + 0

You need both x and y because the bird is moving at an angle from the horizontal (unlike all of our other problems)

Once you calculate Px and Py, then you can calculate the final angle and speed

 = tan-1 (Vy)f

 (Vx)f

And v2= (vx)f2 + (vy)f2