KE in Perfectly Inelastic Collisions

$$\Delta KE = KE_f - KE_i$$

$$\Delta KE = \frac{1}{2}mv_f{}^2 - \frac{1}{2}mv_i{}^2$$

A 0.25 kg arrow with a velocity of 12 m/s to the west and pierces a 6.8 kg target.

(a) What is the final velocity of the combined mass?

(b) What is the decrease in KE during the collision?