Physics
FA6.2 - Conservation of Momentum

Name_____

Driving Pet Peeve_____

1. A bullet going 481 m/s imbeds in a stationary block of wood. The bullet and block combo are going 5.27 m/s after the collision, and the combo has a mass of 12.1 kg (Bullet <u>and</u> block). What was the **mass** of the bullet?

2. A 65 kg person dives 3.68 m/s to the right off of a 23 kg cart. What is the velocity of the cart if the cart and person were initially at rest?

3. 68 kg-Francois running 7.8 m/s jumps on a 45.3 kg cart already rolling at 2.3 m/s in the same direction. What speed are they going after he jumps on?

4. A 1240 kg Toyota Camry going 12.0 m/s to the east, strikes a 2530 kg SUV going west at 16.3 m/s. What is the velocity of the wreckage after the collision?

5. A 65 kg person is riding a 23 kg cart to the right at 3.15 m/s. What speed must he dive off the cart, and in what direction, to give the cart a velocity of 22.3 m/s to the right?