Name_____

Driving Pet Peeve_____

When you have finished this, go to the website and check your answers. If you got a problem wrong, cross it off on the front, and do it correctly on the back.

Show your work, and circle your answers and use sig figs to receive full credit.

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 65.0 kg person dives 3.68 m/s to the right off of a 23.0 kg cart. What is the velocity of the cart if the cart and person were initially at rest?

3. 68.0 kg-Francois running 7.80 m/s jumps on a 45.3 kg cart already rolling at 2.30 m/s in the same direction. What speed are they going after he jumps on?

4. Bumper car A (340 Kg) with going East collides with the rear of car B (550 Kg) which has a velocity of 2.4 m/s East. After the collision, car A has a velocity of 1.2 m/s to the West, and B has a velocity of 5.40 m/s to the East. What is the velocity of car A before the collision?

5. 94.0 kg Thor is standing on a 41.0 kg cart, and is holding a 6.40 kg hammer. Everything is moving to the right at 1.30 m/s. After he throws the hammer, he is moving 3.70 m/s to the right. What speed and in what direction did he throw the hammer?