Name_____

School 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 rocket exerts 10.3 N of force for 2.23 seconds. What **impulse** does it impart?

2. A 17.5 N unbalanced force is exerted on a 67.1 Kg mass for 37.2 seconds. What is the change of **velocity** of the mass?

3. A 0.142 Kg baseball going 41.0 m/s, strikes a bat, and heads straight **back** to the outfield at 53.0 m/s. If the bat exerted a force of 2350 N, for what **time** was it in contact with the bat?

4. A rocket engine burns fuel at a rate of 53.5 grams per second, and develops a force of 65.2 N. What must be the exhaust **velocity**? (1000 grams = 1 kg)

5. A 60.0 kg rocket, 48.0 kg of which is fuel, burns 2.15 kg of fuel per second with an exhaust velocity of 982 m/s. What are its initial and final acceleration as it takes off from earth?
optional: For what time do the engines burn?   What is its acceleration at t = 10.0 s? Make a graph of the acceleration.