Worksheet: Newton's 2nd Law **Name _____**

1. A water skier has a mass of 79 kg and accelerates at 1.4 m/s^2. What is the net force acting on him?

2. What is the mass of an object if it takes a net force of 32 N to accelerate it at a rate of 0.88 m/s^2?

3. A net force of 15 N is applied to a cart with a mass of 2.1 kg.
   a. What is the acceleration of the cart?
   b. How long will it take the cart to travel 2.8 m, starting from rest?

4. What is the acceleration of a box weighing 666 N if a force of 777 N is applied to it?

5. A car has a mass of 820 kg. It starts from rest and travels 41 m in 3.0 s. What is the net force applied to the car?

6. What is the net force needed to lift a full grocery sack (weighing 210 N) uniformly?
   What is the net force needed to accelerate the grocery sack upward at 1.5 m/s^2?

7. If 2.2 lbs = 1.0 kg, and Megan Progress weighs 130 lbs, what is her weight in newtons?

8. What will be the final velocity of a 5.0 g bullet starting from rest, if a net force of 45 N is applied over a distance of 0.80 m?