Worksheet: 2nd Law of Motion Problems Period_____ Date_____

(Frameworks Code)

Solve the following problems. Use correct problem set-up. Label all numbers with correct units.

1. A force of 25 N is applied to a mass of 0.5 kg. What is the acceleration given to the object?

2. What force is required to accelerate a 2 kg mass at the rate of 50 m/s^2?

3. What is the mass of an object that is accelerated at 10 m/s^2 by a force of 12 N?

4. What force must be applied to a mass of 6 kg to accelerate it at the rate of 2 m/s^2?

5. What is the acceleration of an object when a 50 N force is exerted on a 10 kg mass?

6. What is the mass of an object that is accelerated at 5 m/s^2 by a force of 15 N?

7. How much force is needed to accelerate a 1000 kg car at a rate of 3 m/s^2?

8. If a 70 kg swimmer pushes off a pool wall with a force of 250 N, at what rate will the swimmer accelerate from the wall?

9. A weightlifter raises a 200 kg barbell with an acceleration of 3 m/s^2. How much force does the weightlifter use to raise the barbell?

10. A dancer lifts his partner above his head with an acceleration of 2.5 m/s^2. The dancer exerts a force of 200 N. What is the mass of the partner?