Force and Momentum Problems Worksheet

- Complete the Data Table

Measurement	Unit	Measurement	Unit
Mass		Time	
Momentum		Acceleration	
Distance		Velocity	
Force		Weight	

- For the problems; SHOW YOUR WORK and BOX YOUR ANSWERS.
- Formulas that you may need: $F = m \cdot a$

$$p = m \cdot v$$

1.) How much force is needed to accelerate a 100 kg mass at a rate of 2.5 m/s^2?

2.) What is the force acting on a 0.5 kg object moving at a rate of 100 m/s^2?

3.) What is the mass of an object that is accelerating at a rate of 25 m/s^2 and is using 15 N of force?

4.) Timmy pushes off of the pool wall with a force of 2300 N and accelerates at 15 m/s^2, what is Timmy's mass? (ignore water resistance)

5.) Tonya uses a 418 N force to move a 56 kg mass, at what rate does the object accelerate?

6.) How much momentum does a 25 kg mass moving at 25 m/s have?

7.) How much momentum does a stationary 5500 kg mass have?

8.) What is the velocity of a 5.5 kg object that has a momentum of 550 kg·m/s?

9.) Compare the momentums of a 50 kg dolphin swimming at 16.4 m/s and a 4100 kg elephant walking 0.20 m/s.

1. What is the momentum of a 1400 kg car that is traveling eastward at 23 m/s?