

## Newton's Laws Review Sheet

Name: \_\_\_\_\_

1. A driver sees a dog 50 m in front of his car while he is traveling at 20 miles per hour. If his brakes can provide 4,500 N. of force and his car has a mass of 2,100 kg, will he be able to stop in time to avoid hitting the dog?
2. A 2.1 kg soccer ball is struck with 45 N of force which is applied for .3 sec. What is the frictional force if the ball rolls for 11 seconds before stopping?
3. What is the mass of a car which is accelerated to 15 m/s after being pushed by 510 N of force for 12 seconds?
4. Two tug of war teams pull on a rope. One team has a mass of 400 kg and pulls with 560 N of force. The second team has a mass of 340 kg and pulls with 520 N of force. What will be the acceleration of the rope. Make sure to include direction.
5. List the reaction forces for the following action;  

The force of a bat on a ball	_____
The force of a foot pushing on the ground	_____
The force of a baseball mitt on a ball	_____
The force of a foot pushing on a soccer ball	_____
The force of gravity pulling you down	_____
6. Mass is a measure of this.
7. State Newton's 1st law.
8. Explain the relationship between force and acceleration.
9. Explain the relationship between mass and acceleration.
10. State Newton's 3rd law.