

Lab 2 Student Worksheet - Motion of an Object

- 1) A net force of 3000 N is applied to Jeff's car and causes it to accelerate at 4 m/s/s. If the net force is doubled, find his new acceleration.

- 2) A net force is applied to Mario Andretti's car and causes it to accelerate at 4 m/s/s. If the mass of the car is doubled (because it was filled with fuel), and the same net force is applied, what happens to the acceleration?

- 3) A net force of 4500 N is applied to Jeff's car and causes it to accelerate at 6 m/s/s. After the first turn, Jeff pushes the pedal hard and causes the net force to triple, find his new acceleration.

- 4) A force of 4000 N is applied to a car and causes it to accelerate at 4 m/s/s. If the net force is tripled and the mass of the car is doubled, determine the new acceleration.

- 5) An egg is thrown against a wall and breaks. The same egg is thrown against a vertical sheet and doesn't break. Explain how this is possible.

- 6) How can the concept in problem 5 above be used to help solve the challenge problem?