1. An 873 kg dragster, starting from rest, attains a speed of 26.3 m/s in 0.59 s.
    a. Find the average acceleration of the dragster during this time interval. ($a = 44.6\ m/s^2$)
    b. What is the size of the average force on the dragster during this time interval? (F = 38 900 N)
    c. If the driver has a mass of 68 kg, what force does the seatbelt exert on the driver? (F = 3030 N)

2. The downward acceleration of a karate chop is $-6500\ m/s^2$. If the mass of the forearm is 0.70 kg, what is the force exerted by the arm? (F = –4550 N)

3. A car with a mass of 1550 kg is driving on track initially going 10 m/s. The driver accelerates to 30 m/s in 10 s. What is the average force acting on the car during that time? (F = 3100 N)

4. A car has a mass of 710 Kg. It starts from rest and travels 40 m in 3.0 s. What is the average force acting on the car assuming a uniform acceleration? (F = 6300 N)

5. A force of –9000 N is used to stop a 1500 kg car traveling 20 m/s. What breaking distance is needed to bring the car to a halt? (d = 33 m)

6. A 65 kg diver jumps of a 10 m high platform.
    a. Find the swimmer's velocity the instant he reaches the water. (v = –14 m)
    b. The swimmer comes to a stop 2.0 m below the surface of the water. Calculate the net stopping force exerted by the water. (F = 3200 N)

7. A 5.0 kg remote controlled car is used in an experiment to determine the coefficient of friction between the car's tires and the floor. The car is driven at a uniform velocity and then the tires are locked. The car comes to rest in 3.2 m in a time of 1.7 s. Assuming the only force stopping the car is friction; calculate the coefficient of friction between the tires and the floor. ($\mu = 0.23$)