Give the equation used for each problem and show all work.

1. What net force is required to accelerate a car at a rate of 2 m/s^2 if the car has a mass of 3,000 kg?

F=\_\_\_\_\_\_\_

m=\_\_\_\_\_\_

a= \_\_\_\_\_\_\_\_\_\_

2. A10 kg bowling ball would require what force to accelerate down an alleyway at a rate of 3 m/s^2?

F=\_\_\_\_\_\_

m=\_\_\_\_\_\_

a=\_\_\_\_\_\_

3. Sally has a car that accelerates at 5 m/s2. If the car has a mass of 1000 kg, how much force does the car produce?

F=\_\_\_\_\_\_

m=\_\_\_\_\_\_

a=\_\_\_\_\_\_

4. What is the mass of a falling rock if it produces a force of 147 N?

F=\_\_\_\_\_\_

m=\_\_\_\_\_\_

a=\_\_\_\_\_\_

5. What is the mass of a truck if it produces a force of 14,000 N while accelerating at a rate of 5 m/s^2 ?

F=\_\_\_\_\_\_

m=\_\_\_\_\_\_

a=\_\_\_\_\_\_