Physical Science Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12.2 wks Period \_\_\_\_\_\_\_\_\_\_\_\_

Allen

Use Newton’s 2nd Law of Motion and the following formula to help answer the questions. F = M x A

1. A boy pushes forward a cart of groceries with a total mass of 60.0 kg. What is the acceleration of the cart if the net force on the cart is 85 N?
2. What is the upward acceleration of a helicopter with a mass of 7000 kg if a force of 15,000 N acts on it in an upward direction?
3. An automobile with a mass of 1150 kg accelerates at a rate of 3.0 m/s2 in the forward direction. What is the net force acting on the automobile?
4. A 30 N force accelerates a boy in a wheelchair at 0.4 m/s2. What is the mass of the boy and the mass of wheelchair?
5. A weightlifter slowly lifts a large amount of weight with a force of 500 N and an acceleration of 0.8 m/s2. What is the amount of weight being lifted in **grams**?
6. A small machine lifts 4500 grams of material with an acceleration of 3.5 m/s2. What is the net force of the machine?