

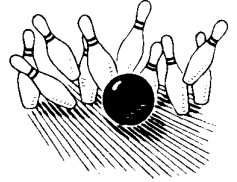
Newton's Laws Practice Problems

Name: _____ Per: _____

1. Scott falls off his skateboard. He comes to a crashing stop against the sidewalk, but his skateboard rolls on because of _____.
- a. gravity
 - b. inertia
 - c. friction
 - d. velocity



2. How much force is needed to make a 25 kg bowling ball accelerate at 2 m/s²?
SHOW YOUR WORK!



3. If a 2 kg bird is pushed by the wind with a force of 2 N, how fast will the bird accelerate?
SHOW YOUR WORK!



4. How much force is the boat exerting if the 52-kg water-skier it is pulling accelerates at 3 m/s²? SHOW YOUR WORK!



5. The water-skier's little brother wants to take a turn, but he only has $\frac{1}{2}$ the mass of his sister. What is his acceleration going to be if the boat continues to exert the same amount of force?
SHOW YOUR WORK!

How does his acceleration compare to his sister's? Why?

6. Tell which of Newton's laws fits each example below AND explain HOW:



- a. A little girl has been pulling a sled behind her. When she stops, the sled keeps moving and hits her on the back of the leg.

- b. As the fuel in a rocket ignites, the force of the explosion pushes out of the back of the rocket and pushes the rocket forward.



- c. A pitched baseball goes faster than one that is gently thrown.



- d. When 5-year-old Bobby skips stones at the pond with his dad, the stones his dad throws go farther than Bobby's.

- e. A swimmer pushes water backwards with her arms, which makes her body move forward.



- f. You are riding your bike and hit a bump in the road. Your bike stops, but you fly over the handlebars.

