Concept Review

Section: Motion and Force

1. **Identify** the following examples of friction as unwanted or necessary.
   - a. friction between a cast-iron pan and the food in the pan
   - b. friction between bones in a joint
   - c. friction between tires and the road
   - d. friction inside a car engine

2. **Suggest** why placing wheels under a heavy box reduces the necessary force required to push it along at a constant speed.
   

3. **Identify** the four fundamental forces in nature.
   

4. **Explain** what happens whenever a net force acts on an object.
   

5. **Analyze** the following situations, and indicate whether the forces are balanced or unbalanced.
   - a. a skydiver accelerating downward
   - b. a cannonball fired parallel to the ground
   - c. a motorboat coasting at a constant speed
   - d. a bike leaning against a tree