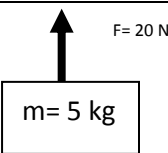


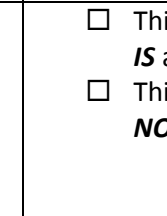
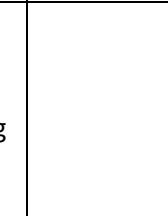





Free Body Diagrams and Net Force
Honors physics

Name _____

| Description | Free body diagram (label only forces acting on the object; velocity is NOT a force!!!!) (possible forces include weight, normal force, friction, tension, air resistance) | Is the object accelerating? |
|---|---|--|
| 1. Your textbook is sitting at rest on a level table | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 2. A satellite in empty space is moving at a constant velocity of 30,000 mi/h in a straight line | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 3. A hockey puck is sliding to the right on frictionless ice at a constant velocity of 2 m/s | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 4. A sled is dragged horizontally to the right at a constant velocity through the snow | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 5. A baseball player is sliding on the dirt to the right and coming to a stop | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 6. A baseball is thrown into the air and the ball is in the middle of flight (neglect air resistance) | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 7. A skydiver is descending with a constant velocity of 40 mi/h with her parachute opened | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 8. A sled is dragged through wet snow (there is friction) to the right; the sled is accelerating at a rate of 1.0 m/s^2 | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 9. A person is standing on the floor of an elevator while the elevator is moving up at a constant velocity of 2m/s | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |
| 10. A person is standing on the floor of an elevator while the elevator accelerates up at a constant rate of 0.5 m/s^2 | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating |

| Free Body Diagram (consider only the forces shown in the diagrams) | What is the Net Force and its direction? | Is the object accelerating? | What is the acceleration of the object? |
|---|--|--|---|
| 11.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 12.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 13.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 14.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 15.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 16.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 17.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |
| 18.  | | <input type="checkbox"/> This object IS accelerating <input type="checkbox"/> This object is NOT accelerating | |