## Prelab-PHYS221 Experiment 5- Newton's Second Law

1. What is the objective of this experiment? 1 pt.
2. What is Newton's Second Law? Give the formula and a qualitative explanation? 2 pt.
3. How is the tension supplied to the cart in this experiment? 1 pt.
4. In step 5 explain how friction is compensated for? 2 pts.
5. Draw force diagrams for the cart and the hanging mass in step 5 (measurement of friction) and step 8 (measurement of acceleration)? Draw to scale (i.e., your diagrams should delineate between $\Sigma F = 0$ and $\Sigma F = ma$ ). 2pts.
5. Should the acceleration determined in step 10 (or any part of the experiment) be equal to, greater than, or less than the acceleration of gravity? Explain (Assume friction is negligible and use Equation 5). 2 pts.