Handed Out: _____ Name: _____
Due Date: _____

Acceleration Problems I

Physical Science and Technology

Instructions: Please complete these problems on your own sheet of paper – write your name, today's date, and the due date (today) in the top left corner of your paper. Write the title of this assignment ("Acceleration Problems 1") across the top of your page. For each of these problems, use the Five Steps unless indicated otherwise.

1. Simon the chipmunk is running down the street at 7.5 meters per second. He sees a double-tall latte on the road ahead of him and starts sprinting. After 3 seconds have passed, he is running at 9.1 meters per second. Assuming he does not change direction, what was Simon's acceleration?

2. Nicholas Cage is falling off a cliff. At the beginning of his fall, he is motionless - his velocity is 0 meters per second. After 10 seconds, his velocity is 283 meters per second. What Nicholas' acceleration? (Note: He was uninjured when he hit the ground because he landed on Simon).

3. Kelsy is riding her bike across a parking lot. She is heading east at 19.2 meters per second. She runs over Simon, who is lying down in the parking lot. Five seconds after running over Simon, Kelsy is heading east at 14.8 meters per second. What was Kelsy's acceleration?

4. Simon throws a pumpkin onto Kelsy's car. At first, Simon is holding the pumpkin motionless – its velocity is 0 meters per second. 1.3 seconds after Simon lets go, the pumpkin is traveling at 329.8 meters per second. Assuming it does not change direction, what was the acceleration of the pumpkin?

5. A go-cart is rolling down a straight track at 6.5 miles per hour. The go-cart's speed does not change. Is the go-cart accelerating? WHY??????????? (You do NOT need to use the Five Steps for this problem.)