**Unit 3 – Activity 1c**

**Graphing Accelerated Motion**

1. Using your slope calculations from Activity 1b, complete the data table below. Then, using the velocity and time data, plot a velocity vs. time graph for the wheel rolling down the incline.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0.0 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 |
|  |  |  |  |  |  |  |  |

1. Complete the mathematical analysis for this graph in the space below.

|  |
| --- |
| **Mathematical Analysis:** |

1. According to your velocity vs. time graph, what is happening to the velocity of the wheel as time passes?
2. What is the physical significance of the slope of this graph? (Hint: The rate at which…)
3. In what units is this slope measured?
4. What is the name commonly used to represent this rate?
5. What symbol would you use to represent this rate?
6. Write the general equation (using only variables) that describes the relationship between velocity and time for a wheel rolling down an incline from rest.