## MPM1D

## 5.2 Slope as a rate of Change

- 1. The following represents the graph for a helium balloon's flight.
- a. Determine the rate of change of the graph.
- b. What does this slope (rate of change) mean?
- c. When is the balloon at 5000 ft? Show this on your graph.
- d. How high is the balloon off the ground at 2 seconds? Show this on your graph
- e. Although not on the graph, when will the balloon reach 10 000 feet? Show your reasoning
- 2. The following represents the balance in Brady's savings account.
- a. Find the slope of the graph.
- b. What does the slope represent as a rate of change?
- c. How much did Brady deposit when he opened the account?
- d. At this rate how much money will Brady have in his account after 15 months. Show your reasoning.
- e. If Brady deposited \$500 to begin with, but continued to deposit the some amount each month what would this graph look like? Sketch it on the graph.
- f. If Brady deposited \$300 initially, but spent it all in five months show this on the graph?
- g. What would the slope of this line be? What does the negative sign indicate?



6000 Height (ft) 5000 4000 3000 2000 1000 0 3 0 2 4 5 6 1 Time (min)

Date:

Time vs. Height

3. Rojen makes \$7 per hour babysitting. Create a table of values and graph for this scenario

a. Find the rate of change of the graph.



Time (h)	Money Made
	(\$)
0	
1	
2	
3	
4	
5	

4. If it costs \$25 to rent a car and 0.10 cents per kilometer drive create a graph for the scenario.

**HINT:** Even if you do not drive the car off the lot it will still cost you \$25.

a. Find the rate of change of this graph.

Distance (Km)	Cost (\$)
0	25
10	
20	
30	
40	
50	



b. What does it represent?

c. What is the value on the y-axis? How does it relate to the scenario?

d. If you paid the same fee to rent the car (\$25), but more per kilometer what would this look like? Sketch it on the graph.

5.a. What is the slope of this graph?

b. Interpret this slope as a rate of change.

c. Explain this rate of change in words.

d) How many books has this person read in:a. 2 weeksb. 8 weeks



6.a. What is the slope of this graph?

b. Interpret the slope as a rate of change.

c. What is the cost if the distance is zero?

d. Create a scenario to match this graph.

