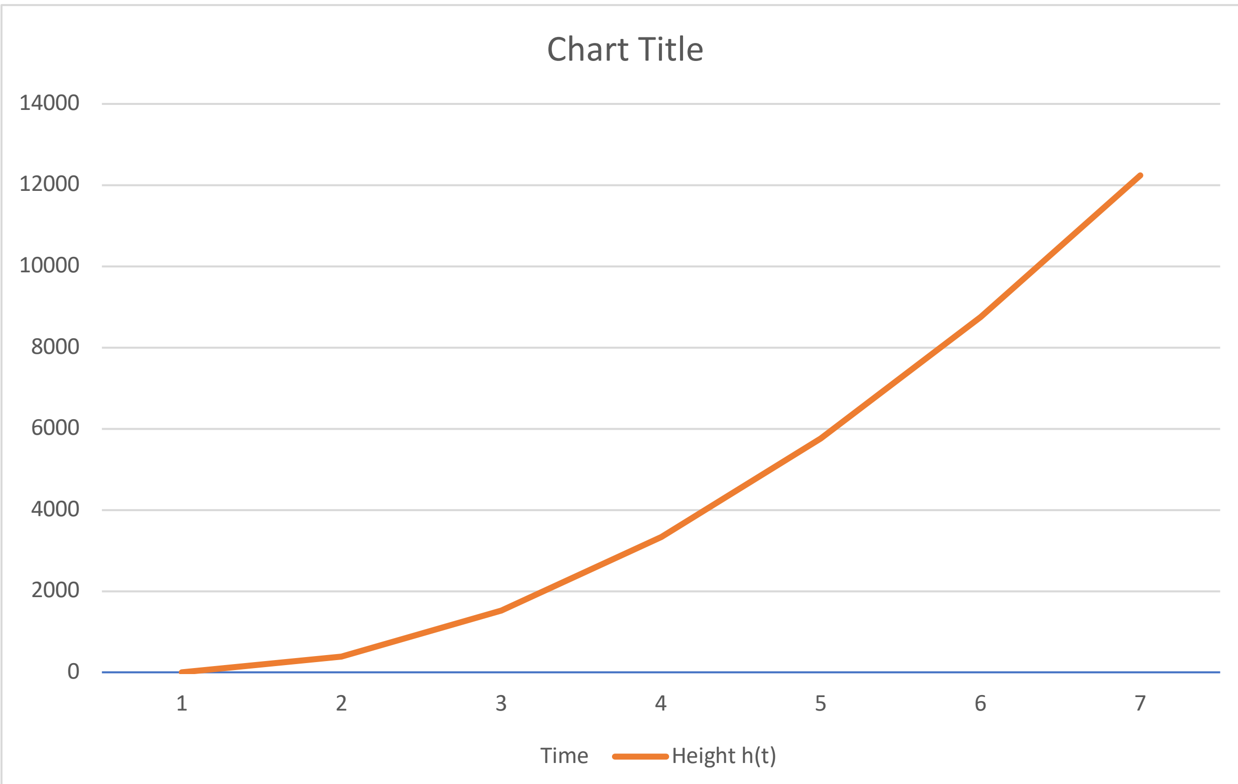
Pedro
Alex
Prag
Malhar
Ziad
Calc 1 – Lab 1

1.



Time	0	10	20	30	40	50	60
Height h(t)	0	390	1520	3330	5760	8750	12240
Average Speed	0	39	113	181	243	299	349

A. Lab 2A Rocket Launch
   i. The graph reflects the Astronauts speed over time as time processes the speed of the shuttle also increases exponentially. Give the shuttle started from a stand still, the graph is consistent with the rocket "Gaining Speed" as it ascends.
   ii. We originally had decided on Graph 3. As a team we figured Graph 1 could not be the choice as the graph does not at 0; thus, it was instantly taken out. Graph 2 started at a standstill, but we quickly noticed the average speeds we computed far exceed what the graph displayed; thus, it was eliminated.

iii. Using the example provided in the Lab, we found at T= 70 → H= 25,900 ft and T=80 → H= 29,600. The reason why there is a discrepancy in the speed of 77 ft/s and the actual distance traveled is because, the shuttle constantly changing. Even though the shuttle is showing on the speedometer it is traveling at 77 ft/s there are numerous factors that contribute to the actual distance travelled, for example, the pilot decided to let off the gas. So, while the speedometer will mark a different speed the average distance traveled will remain relatively unaffected by a small change in speed.

B. Lab 2B Limits at a Point

i. The first graph we were able to quickly distinguish was h(x) due to (x-3)/(x-3) will lead to plugging in an X value that will land on the line itself which creates the open dot. For the remainder graphs, Malhar noted, they followed in order as they were written in the Question A and how the graphs were written. If the third function had a graph with an open dot, the first equation had to follow the exact graph; Afterall, the additional three functions were extensions of F(x) = -2x + 7.

ii. Malhar computed this portion, and it was collectively decided Lim x→3 G(x) is undefine, Lim →3 h(x) is defined, and Lim x→3 k(x) is undefined. G(x) and K(x) are undefined, because if we follow the X axis of the functions, we find that there the negative (left side) and the positive (right side) are not equal; thus undefined. However, H(x) is defined, because whether from the left or right we have equal values.

iii. For Parts 2b and 2c, we did not have sufficient space on the board to both graph and write a table for. However, we did use the Limit Laws to simply.

2. The big ideas for Calculus in the labs this week was to graphically show calculating constant change. More so with Lab 2A where it was firmly planted on being able to depict how the actual speed affects the average distance traveled and average speed of travel. Conversely, during Lab 2B, we focused more so on the Instant Speed (speed at a specific time) and using the limits to determine said Instant Velocity.

3. I think the biggest thing that helped me the most was the team itself. When I could not get the ball rolling, there was someone else that would. With one idea we would lead to another idea so on and so forth. Overthinking was something that as a group we need to overcome. In the first lab we were expecting to receive a complicated task and it was simply subtracted y1 from y2 divided by subtracting x1 from x2, as an example. For next lab instead of jumping straight to the board and writing, take more time to analyze what is being asked of us in the lab. That way when we get the ball rolling it can roll smoother and more efficiently. Now, the thing I am having the biggest problem with is memorizing when to use which function/equation. I feel as though this will rectify itself with time and practice.