

Science Assignment 2 follow-up

33. For the experiment that you ran on Friday, here's some idealized data. Note that this is for the y-direction (vertical) only. Perform the same calculations as you did for your own data, and fill in the rest of the table.

Frame	Time (seconds)	Y	Difference in Y	Calculation
0	0.00	0.000		
1	0.04	0.016		
2	0.08	0.064		
3	0.12	0.144		
4	0.16	0.256		
5	0.20	0.400		
6	0.24	0.576		
7	0.28	0.784		
8				

34. For about the same times, were your Y-numbers higher or lower or about the same as the Y-numbers in the idealized data set? If they were *always* higher or *always* lower, suggest a factor we may have overlooked that would explain the discrepancy. This type of discrepancy is called a **systematic error**.

35. With the idealized data set, answer question 31 on assignment 2 more confidently.

36. Like the previous step, here's some idealized data. Note that this is for the y-velocity (vertical) only. Perform the same calculations as you did for your own data, and fill in the rest of the table.

Frame	Time (seconds)	Y Velocity	Diff. in Y Velo.	Cal-culation
0	0.00	0.0		
1	0.04	0.4		
2	0.08	1.2		
3	0.12	2.0		
4	0.16	2.8		
5	0.20	3.6		
6	0.24	4.4		
7	0.28	5.2		
8				

37. For about the same times, were your Y-velocities higher or lower or about the same as the Y-velocities in the idealized data set? If they were higher or lower, were your Y-velocities off in the same way as the Y-numbers from the previous table? Is this consistent with the reason that you gave for why the "distance fallen" numbers were off?

38. With the idealized data set, answer question 30 on assignment 2 more confidently.