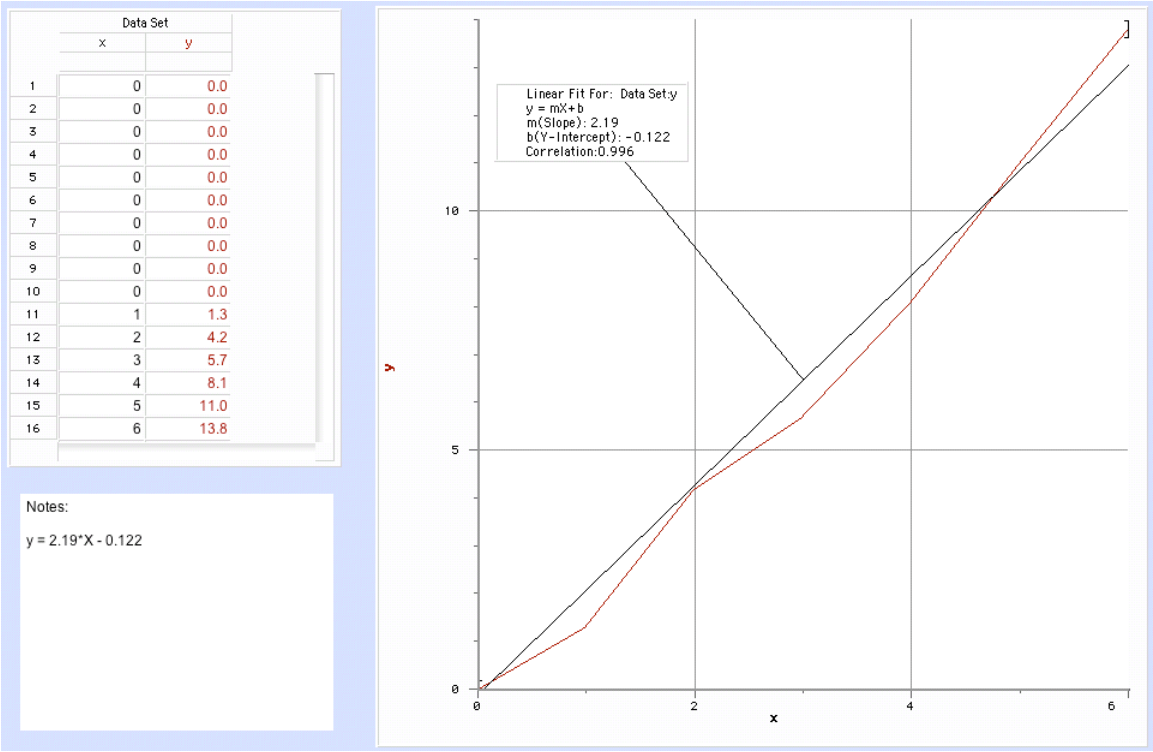
Preparing Graphs: Requirements for Introductory Physics Lab Activities

How NOT to Prepare a Graph



Data Set

	x	y
1	0	0.0
2	0	0.0
3	0	0.0
4	0	0.0
5	0	0.0
6	0	0.0
7	0	0.0
8	0	0.0
9	0	0.0
10	0	0.0
11	1	1.3
12	2	4.2
13	3	5.7
14	4	8.1
15	5	11.0
16	6	13.8

Notes:

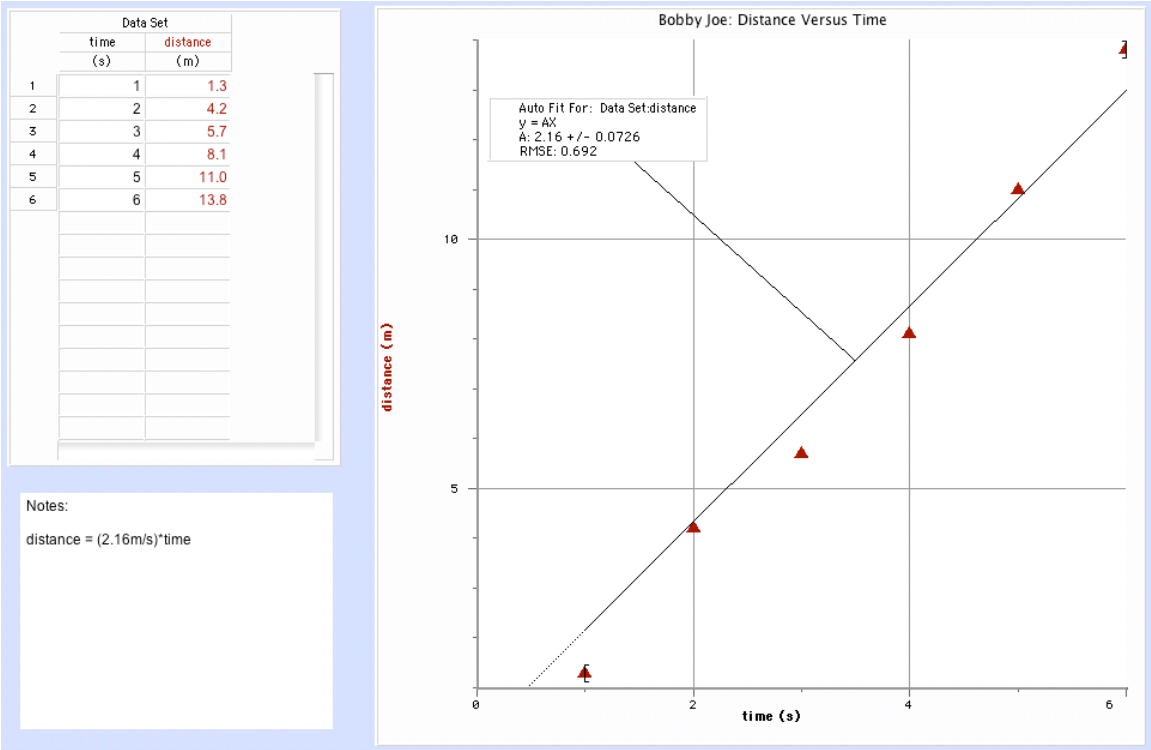
y = 2.19*X - 0.122

1. Point protectors missing.
2. Connecting data points with lines.
3. Regression line shown with data point line.
4. Multiple (0, 0) data points in attempt to “force” regression line through origin.
5. No column labels on data or graph.
6. No units on data or graph.
7. No label on graph.
8. Label does not include student’s name.
9. Provides algebraic interpretation of data, not physical (shown here in Notes box)
10. Regression formula missing units on constants.

Other concerns:

11. Failure to linearize data to get a straight-line relationship unless otherwise called for.
12. Printing graph without data table on same page.
13. Failure to print use a landscape view.
14. Wasting paper and printer toner.

How to Prepare a Graph



Data Set

	time (s)	distance (m)
1	1	1.3
2	2	4.2
3	3	5.7
4	4	8.1
5	5	11.0
6	6	13.8

Notes:

distance = (2.16m/s)*time

1. Point protectors clearly evident.
2. Not connecting data points with lines.
3. Regression line shown alone.
4. No (0, 0) data points; uses proportionality for regression line.
5. Column labels clearly evident on data and graph.
6. Units clearly evident on data or graph.
7. Label on graph.
8. Label includes student's name.
9. Provides physical interpretation of data, not algebraic (show here in Notes section).
10. Regression formula includes units on constants.

Other pointers:

11. Linearize data to get a straight-line relationship unless otherwise called for.
12. Print graph with data table on same page.
13. Print using a landscape view, avoid using portrait view.
14. Wasting paper and printer toner.