# Graphing Introduction Lab

Purpose - to practice graphing skills such as plotting, curve recognition and calculation of formula describing the graph.

Procedure -

1.) The data below was collected by a student who observed a car traveling at a constant velocity (speed).  Plot the data on a graph of distance vs. time (d on y-axis).  Make your graph a ½ page in size with an appropriate scale.

| Distance (m) | Time (s) | Distance (m) | Time (s) |
|---|---|---|---|
| 0 | 0 | 1.20 | 1.60 |
| 0.60 | 0.80 | 1.50 | 2.00 |
| 0.90 | 1.20 | 1.65 | 2.20 |
| 1.00 | 1.33 | 1.80 | 2.40 |

2.) Calculate the slope of the line in your graph, include units.

3.) Determine and record an equation for your graph.

4.) The following data was collected at a horse race.  The race was in progress when data collection began.  Plot the data on a graph of distance vs. time, use a ½ page again.

| Distance from start gate (m) | Time (s) | Distance (m) | Time (s) |
|---|---|---|---|
| 5 | 0 | 22.2 | 6.0 |
| 7.8 | 1.5 | 27.0 | 7.5 |
| 14.6 | 3.0 | 31.8 | 9.0 |
| 17.4 | 4.5 | 33.6 | 10.5 |

5.) Calculate the slope of the line in your graph, include units.

6.) Determine an equation for your graph.

7.) The following data was collected as a rock was dropped off a cliff.  Prepare a distance vs. time graph as in the previous procedures.

| Distance (m) | Time (s) | Distance (m) | Time (s) |
|---|---|---|---|
| 0 | 0 | 5.00 | 1.00 |
| 0.31 | 0.25 | 7.81 | 1.25 |
| 1.25 | 0.50 | 11.3 | 1.50 |
| 2.81 | 0.75 | 15.3 | 1.75 |

8.) Determine an equation for your graph.


Discussion -

   1.) Which of the 3 shapes of graphs is your first graph?

   2.) Which of the 3 shapes of graphs is your 2$^{nd}$ graph?

   3.) Which of the 3 shapes of graphs is your 3$^{rd}$ graph?

   4.) Which type of graph will have no y – intercept?


Conclusion - Do a meaningful conclusion to this lab.