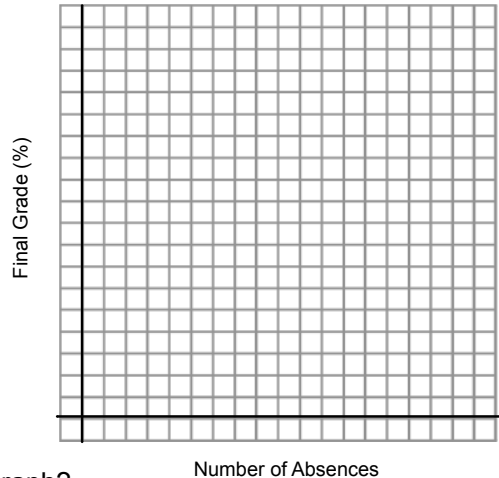


Date: _____

Bell Work: (do this here, not in your book)

Use the grid provided to create a scatter plot for the data in the table.

Number of Absences	Final Grade (%)
0	94
2	66
4	85
5	82
6	78
7	79
8	74
10	91
11	70
18	65



Discussion Questions:

What title would you use for this graph?

How would you describe the relationship between attendance and grades?

Are there any points that don't fit in with your general conclusion? What are these called?

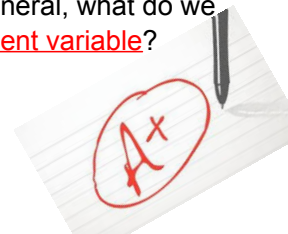
2.3 Use Scatter Plots to Analyse Data

1) Vocabulary

This unit is full of specific vocabulary. We will discuss new terms each day, and it is important that you learn the meaning of them so that you can answer questions!

We are going to use the example from the bell work today to help us figure out some definitions.

- What were the **variables** that we were considering? In general, what is a **variable**?
- Which variable was dependent on the other? In general, what do we mean when we say **dependent variable**? **independent variable**?



- Our description used to explain the relationship between attendance and grades is called an **inference**, which is just a conclusion made based on reasoning and data together.
- The graph that we created is a **scatter plot**, and we can use it to see the relationship between variables.
- The points that did not fit in with our general trend are called **outliers**. We can remove them if we are sure that they are not representative of the relationship between the variables.

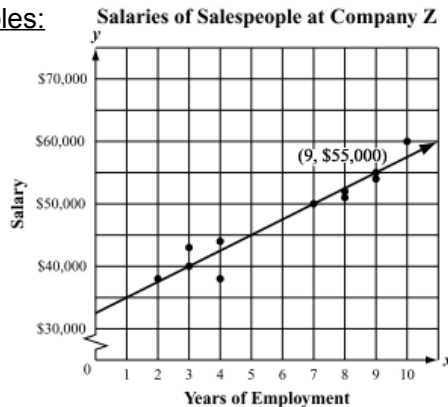
2) Expectations for Scatter Plots

It is important to graph neatly and to be as accurate as possible. No one can plot points perfectly when the data set is in decimals, but you need to do your best! **To ensure that your graph meets expectations, be sure to:**

- Use graph paper. There is some at the back of the room.
- Use a ruler to create your axes.
- Label your axes with both a title and a scale. Remember that the axes meet at zero!
- Give your graph a title.
- If you need to skip numbers between zero and your data set, you must show that. **Do you remember how?**

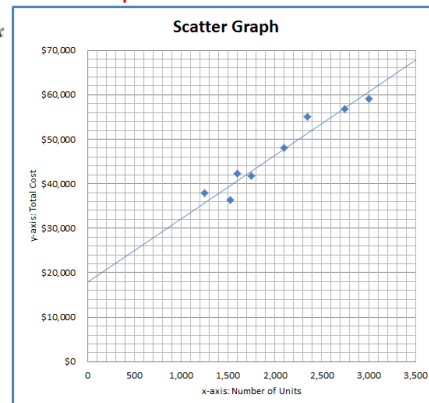
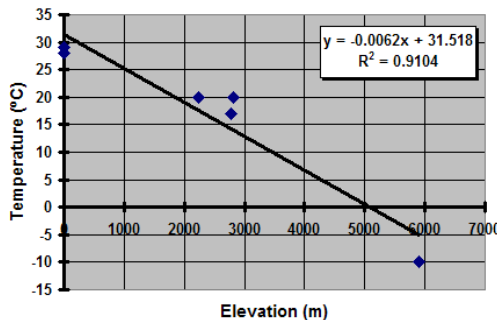
- Negative numbers may also appear. That's okay - your axes can extend into negative numbers because they are just number lines.

Samples:



For each sample graph:

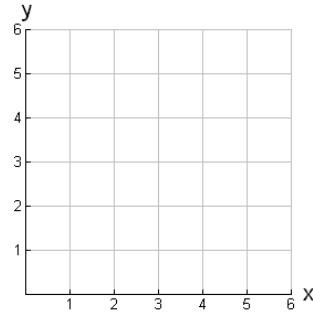
- 1) identify the independent and dependent variables.
- 2) state the relationship between the variables.
- 3) identify any missing components or areas for improvement.



In general, when you are creating a scatter plot (or any other graph), you need to follow conventions with respect to the independent and dependent variables. The table of data also helps you to identify which is which.

Vertical Table of Values

Horizontal Table of Values

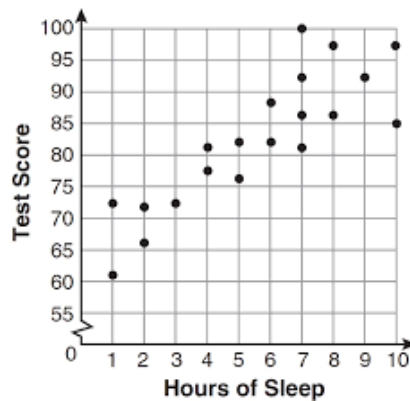


3) Practice Problems

a) Identify the independent and dependent variables in each of the following situations.

- i) time spent exercising each week and blood pressure
- ii) number of vacations per year and annual income
- iii) temperature and number of ice cream cones purchased

b) Use the scatter plot provided to answer the questions.



What impact does sleep have on test scores?

Which variable is independent?
Dependent?

Do you notice any outliers in the data? If you do, state the coordinates.

Approximately what mark did the student that got three hours of sleep get on this test?

What was the highest mark on the test? The lowest?

