# **Assignment #2**

## **Part 1:**

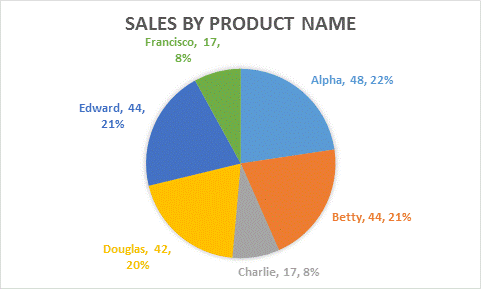
Resources that will help:

* [**Pie, Column, Bar, Line and X-Y Scatter**](https://www.youtube.com/watch?v=-btUxQi76qI)
* [**Pareto Chart**](http://www.excel-easy.com/examples/pareto-chart.html)

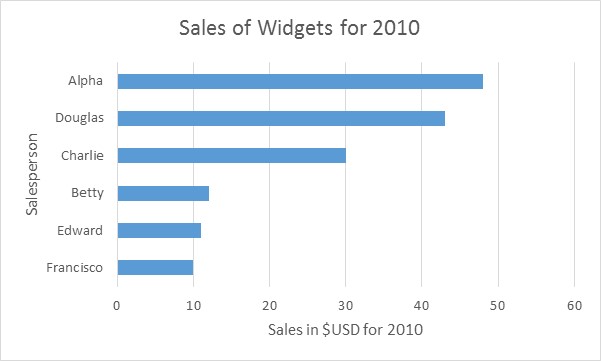
Suppose that you are working for a manufacturing company and want to visualize the types of defects that are occurring along with how many times each defect occurs. See the data below.

|  |  |
| --- | --- |
| **Defect** | **Number of Defects** |
| Misplaced transistors | 601 |
| Wrong component | 212 |
| Defective board dimension | 146 |
| Components not adhering | 143 |
| Circuitry problems on final test | 90 |
| Excess adhesive | 71 |
| Mounting holes improperly positioned | 12 |

1. In Excel, create a pie chart with an appropriate title. Copy and paste the chart into this document below. Below is an example of what your final chart should look like, although your titles and numbers will be different. Remove my example and insert your own.



1. In Excel, create a bar chart with an appropriate vertical axis, horizontal axis, and title. Copy and paste the chart into this document below. Below is an example of what your final chart should look like, although your titles and numbers will be different. Remove my example and insert your own.



Summarize the charts. What information can the company obtain by these charts? Explain.

## **Part 2:**

Resources that will help:

[**Mean, Median, Range, Quartiles, Skewness**](http://www.youtube.com/watch?v=DTMxjANGvcU)

Complete the following tables and upload with answers included.

You will find the Excel file titled “Retirement Funds”. Inside this file is a listing of types of fund and their returns over a specific number of years. There are six types of funds presented, including a) Large Growth, b) Large Value, c) Mid-Cap Growth, d) Mid-Cap Value, e) Small Growth, and f) Small Value. Please answer the following questions.

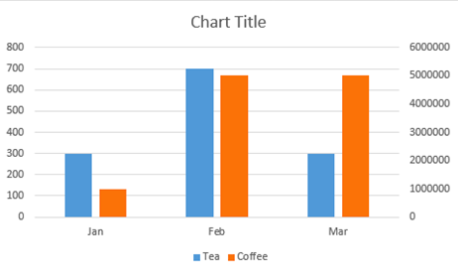
Please describe the data for each fund at the 3-year return

| **Fund Type** | **Average** | **Standard Deviation** | **Minimum** | **Maximum** | **Quartile 1** | **Quartile 3** | **Skewness** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Large Growth |  |  |  |  |  |  |  |
| Large Value |  |  |  |  |  |  |  |
| Mid-Cap Growth |  |  |  |  |  |  |  |
| Mid-Cap Value |  |  |  |  |  |  |  |
| Small Growth |  |  |  |  |  |  |  |
| Small Value |  |  |  |  |  |  |  |

After filling in the table with the descriptive statistics, compare the funds using the data. Discuss what standard deviation means for funds and discuss skewness of a fund and why that might be important.

## **Part 3**

Using excel please create a clustered bar chart with average returns and standard deviations being represented by two different color bars. On the horizontal axis please include each fund type (similar to where you see the months in the below graph). If your bars are hard to interpret, please include a dual axis as seen in the below picture. Then, after constructing the graph infer what the output of the graph means in the relationship between standard deviation and average returns. Are the two related? If so, what kind of relationship exists between them?



Given your determination of the given analysis, what is the best course of action that companies need to take in determining the impact of their management techniques? Write 3-4 paragraphs explaining the problem, which analysis was used, the supporting data and your overall suggestions to the higher ups. Conclude your writing with a few short paragraphs describing your case in non-technical language so that anyone can read and articulate your arguments, despite their academic background.