**Problem 5**

See attached spreadsheet for details.

Exchange Rate one standard deviation greater than 1.30 $/£ is 1.3265 $/£

Exchange Rate one standard deviation less than 1.30 $/£ is 1.2735 $/£

Probability that the pound will be worth more than $1.35 in one month is 2.97%

Recommend that the company does not hedge

**Problem 6**

Everyone’s graphs and portfolios will be different because you each selected different stocks. Here are the points you should have gotten from this problem:

* The graph when the stocks are sorted from highest standard deviation to lowest should look the most like the “classic” graph.
* The sorting does not affect the portfolio standard deviation for the 30-stock portfolio because it is the same 30 stocks – the order they are listed doesn’t affect the risk of the portfolio
* The standard deviation of a portfolio will always be less than a weighted average of the standard deviations of the stocks which comprise the portfolio as long as the correlations are not all 1.0.
* Most likely, the portfolio standard deviation went up at least once when you added an additional stock. It’s standard deviation was high enough to offset the advantage of adding some additional diversification.
* It is not only possible to put together a portfolio of 30 stocks with a standard deviation lower than the S&P 500, I suspect that most of you did it.
* To lower the standard deviation of a portfolio, you must select stocks with low standard deviations and low correlations with each other.

**Problem 7**

0.9 = βA (1+(1-.35) \*5/16)

βA = .7480519

βGE = .7480519 (1 + (1-.35) \*2/3) = 1.0722078

E(R) = 3% + 1.0722078 (5.7%) = 9.11158%

WACC = (3/5) (9.11158%) + (2/5) (7%) (1-.35) = 7.28695%

NPV = -10 mill + 1.2 mill

 .0728695

 = $6,467,793.70