**ANSWERS**

1. The price of an October 140 call on an Amazon.com using the Black-Scholes-Merton Model gives us a call price of 13.69USD and for the October 140 put a price of 15.03USD. Given this and ignoring the time value of money, the stock price has to increase by more than $16.59 for the investor of the call to break even. Similarly, the stock price has to be between 140USD and above in other for the short-put investor to make a profit.
2. The behavior of stock prices follows a lognormal process which estimates the future price of stock hence stock price cannot be negative. This is shown in the lognormal curve in the excel sheet (figure 1). We observe that the graph is positively skewed and as number of periods increase we observe a steady increase in stock prices however, we experience an increase in probability and consequently a decrease as the periods increases more showing our uncertainty.

Also, We see that as the number of periods increase the distribution gets closer to a N (0,1). Figure 2 from the excel file which shows the normal distribution of the cumulative distribution of the stock price. As T increases the standard deviation of the continuous cumulative return declines. This implies that we are more certain about the average return per year over a longer period than we are about in any one year.