(a) and (c)

```
sim_store <- data.frame()
values <- data.frame()
for(j in 1:10){
  for(i in 1:10000){
    sim_store[i,1] = sum(rnorm((10*j), mean = 0, sd = 1))
    sim_store[i,2] = abs(sim_store[i,1])
  }
  sim_store[,2] <- sim_store[order(sim_store[,2]),2]
  values[j,1] <- mean(sim_store[,2])
  values[j,2] <- sd(sim_store[,2])
  values[j,3] <- sim_store[250,2]
  values[j,4] <- sim_store[9750,2]
}

colnames(values) <- c("Expected Values", "Standard Deviations","Lower Bound for 95% CI", "Upper Bound fo
values
```

```
##    Expected Values Standard Deviations Lower Bound for 95% CI
## 1         2.516025            1.889709              0.1015481
## 2         3.552149            2.699052              0.1552733
## 3         4.340002            3.292929              0.1654986
## 4         5.044184            3.815424              0.2218163
## 5         5.648002            4.258982              0.2095376
## 6         6.117134            4.680400              0.2326475
## 7         6.687508            5.055875              0.2808308
## 8         7.098530            5.388246              0.2795071
## 9         7.586199            5.763926              0.2621725
## 10        8.009455            5.978990              0.3089610
##    Upper Bound for 95% CI
## 1                6.977975
## 2               10.056009
## 3               12.239985
## 4               14.244371
## 5               15.970220
## 6               17.485161
## 7               18.581900
## 8               20.006748
## 9               21.331369
## 10              22.485660
```