(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 for 95% CI")
values
```

```
##    Expected Values Standard Deviations Lower Bound for 95% CI
## 1         2.488111            1.883065              0.1074611
## 2         3.495427            2.631031              0.1377457
## 3         4.324049            3.280824              0.1640658
## 4         5.067316            3.842256              0.2074358
## 5         5.569252            4.184972              0.2047702
## 6         6.055021            4.630167              0.2202767
## 7         6.700762            5.053096              0.2802329
## 8         7.054738            5.332978              0.2977363
## 9         7.583176            5.684992              0.3073384
## 10        7.996259            6.038897              0.2956727
##    Upper Bound for 95% CI
## 1                6.960076
## 2                9.710800
## 3               12.158126
## 4               14.129509
## 5               15.752160
## 6               17.201181
## 7               18.553657
## 8               19.815166
## 9               21.111333
## 10              22.344849
```