Question 1:

In 2008, the per capita consumption of coffee in the United States was reported to be 9.24 pounds. Assume that the per capita consumption of coffee in the United States is approximately distributed as normal with a mean of 9.24 pounds and a standard deviation of 3 pounds.

(a) What is the probability that someone in the United States consumed less than 22 pounds of coffee in 2008?

(b) 97% of the people in the United States consumed less than how many pounds of coffee?
Question 2:

Past sales records indicate that sales at the store are exponentially distributed with a mean $12.5 per customer. The store manager has selected a random sample of 100 sales receipts. Find the probability of getting a sample mean between $12.25 and $13 from this population.

Question 3:

An electrical firm manufactures light bulbs that have a length of life that is normally distributed with standard deviation of 40 hours. If a sample of 30 bulbs has an average life of 780 hours,

Find a 96% confidence interval for the population mean of all bulbs produced by this firm.