

#### WEEK 4 HOMEWORK

1. A random sample of 100 selected from a population with a standard deviation of 10 yielded a mean = 225. The mean and the standard deviation of the distribution of the sample means are\_\_\_\_\_.

- 225 and 0.1
- 22.5 and 10
- 22.5 and 1
- 225 and 1
- 225 and 10

2. Suppose a random sample of 49 is selected from a population of size  $N = 500$  with a standard deviation of 14. If the sample mean is 125, the 99% confidence interval to estimate the population mean is between\_\_\_\_\_.

- 119.85 and 130.15
- 120.10 and 129.90
- 119.85 and 135.15
- 118.00 and 132.00
- 119.85 and 129.90

3. A manufacturer wants to purchase a certain product of foil. The foil is stored on 1534 rolls each containing a varying amount of foil with a standard deviation of 12.5. In order to estimate the total number of foil on all the rolls, the manufacturer randomly selected 200 rolls and measured the number of foil on each roll. The sample mean was 48. Then the 95% confidence interval to estimate the population mean of foil is between\_\_\_\_\_.

- 45.88 and 50.12
- 46.27 and 49.73
- 46.64 and 49.36