

#### Homework 4

- 1- suppose the population mean expenditure per customer at a store is \$125 and the population standard deviation is \$30. If a random sample of 40 customers is taken, what is the probability that the ***sample mean*** expenditure is more than \$133?

- 2- Suppose that during any hour in a large store, the average number of customers is 448, with a standard deviation of 21. What is the probability that a random sample of 49 different hours will yield a sample mean between 441 and 446 customers?

- 3- A company's hourly employees average 37.6 years of age, with a standard deviation of 8.3 years. If a random sample of 45 employees is taken, what is the probability that the sample will have an average age of less than 40 years?

- 4- If 20% of a population of parts is defective, what is the probability of randomly selecting 100 parts and finding that 25 or more parts are defective?