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Time: 1 hr.

12/5/01

Math 207
Second Semester, 00-01
QUIZ II

1. A simple random sample of 50 items resulted in a sample mean of 32 and a sample standard deviation of 6.
 - a) Compute the 90% confidence interval for the population mean.
 - b) What is the margin of error? What does it mean with regards to the accuracy of the estimate

2. A sample of 250 factory workers in a certain city were found to have mean annual income of \$24,000. The population standard deviation is known to be $\sigma = \$5000$. Compute the 99% confidence interval for the population mean.

3. The final grades in a course are normally distributed with a mean of 68 and a standard deviation 10.
 - a) Find the 90th percentile grade in this distribution.
 - b) Find the percentage of grades below a grade of 60.

4. In a population of 3000 people, 1470 were classified as blood type O, 1140 as type A, 300 as type B, and the remaining as type AB. Let the random variable $x = 0, 1, 2, \text{ or } 3$ if a person's blood type is O, A, B, or AB, respectively. Find the probability distribution for x .

5. The Webster National Bank has found that the average daily balance on personal checking accounts is \$550.00, with a standard deviation of \$150.00. In addition, the average daily balances have been found to be normally distributed.
 - a) What percentage of personal checking account customers carry average daily balances in excess of \$800.00?
 - b) What percentage of the bank's customers carry average daily balances between \$300.00 and \$700.00?

6. According to a survey in a certain year, the mean annual starting salary for accounting graduates is \$26,542 and the standard deviation of those salaries is \$2000. What is the probability that a simple random sample of 100 accounting graduates will have a sample mean within \$250 of the population mean?