1. The number of pizza consumed per month by university students is normally distributed with a mean of 10 and a standard deviation of 3.
   a. What proportion of students consume more than 12 pizzas per month?
      Answer: .2514
   b. What is the probability that, in a random sample of 35 students, more than 385 pizzas are consumed?
      Answer: 0

2. The Red Lobster restaurant chain regularly surveys its customers. On the basis of these surveys, the management of the chain claims that 75% of its customers rate the food as excellent. A consumer testing service wants to examine the claim by asking 400 hundred customers to rate the food. What is the probability that less than 70% rate the food as excellent?
   Answer: .0104

3. It is often useful for companies to know who their customers are and how they became customers. In a study of credit card use, a random sample of 100 cardholders who applied for the credit card and a random sample of 100 cardholders who were contacted by the telemarketers or by mail were drawn. The average purchases by those who applied was $149.85 with a standard deviation of $31.99. The average purchases by those contacted was $126.14 with a standard deviation of $26.00. Compute a 95% confidence interval for the difference in the average amounts spent by those who applied and those who were contacted.
   Answer: (15.63, 31.79)

4. Has the illicit use of drugs decreased over the past 10 years? Government agencies have undertaken surveys of Americans 12 years of age and older. Each was asked whether he or she used drugs at least once in the previous month. The results of this year’s survey and the survey completed 10 years ago were recorded. This year’s survey produced 11 yes responses and 189 no responses while the survey ten years ago produced 22 yes responses and 178 no responses. Calculate a 99% confidence interval to determine whether or not the use of drugs has decreased.
   Answer: (-.1255, .0155)