

### Practice Exam 3

1. According to a June 2009 Gallop Poll of 8013 people, 646 of them admitted to shoplifting at least once in the last year. Test the claim that 10% of people have shoplifted at least once in the last year.
2. Frank bought 40 cans of soup whose labels said there was 12 ounces in each can. He measured them and found the average to be 11.8 ounces with a standard deviation of 0.43. Test the claim that the company is underfilling the cans of soup.
3. An older Americans organization believes that a certain corporation is discriminating against the elderly in their hiring practices. They were able to obtain the ages of people hired in the last year.
  - a. 40 people hired  $\bar{x}=35$   $s = 4.5$  90% CI \_\_\_\_\_
  - b. 40 people hired  $\bar{x}=35$   $s = 4.5$  95% CI \_\_\_\_\_
  - c. 40 people hired  $\bar{x}=35$   $s = 4.5$  99% CI \_\_\_\_\_
4. Listed below are speeds (in mi/h) measured from southbound traffic on I-280 near Cupertino, California. This simple random sample was obtained at 3:30 pm on weekday. Use a .05 significance level to test the claim that the sample is from a population with a mean that is less than the speed limit 65 mph.

62 61 61 57 61 54 59 58 59 69 60 67
5. Use the data from problem 4 to create a 95% confidence interval for the standard deviation for the speeds of southbound traffic on I-280.