**Problems - Z Test**

In New York, a real estate research firm tracks the cost of apartment rentals in US. In 2002, the nationwide mean apartment rental rate was $895/month with a historical population deviation of $225. In a recent study with a sample of 180 apartments it was observed that mean of the samples were $1200/month. Does this analysis support that the apartment rental rates now exceeds the report of 2002.

1. State the Null and Alternate hypothesis
2. What is p value?
3. At .01 level, what is your conclusion?
4. What would you recommend considering this?

In US, the monthly internet bill is $32.79 per household. A sample of 50 houses in southern state showed a sample mean of $30.63. Using a population deviation of $5.60

1. Formulate the hypothesis to test whether the sample data concludes that the mean monthly internet bill in southern state is less than the national mean of $32.79
2. What is the value of test statistic ?
3. What is p value?
4. At .01 level, what is your conclusion?