Question 1:

A random sample of eighty-five students in Chicago city high schools takes a course designed to improve SAT scores. Based on these students, a 90% confidence interval for the mean improvement in SAT scores from this course for all Chicago city high school students is computed as (72.3, 91.4) points. The correct interpretation of this interval is

a. that 90% of the students in the sample had their scores improve by between 72.3 and

 91.4 points.

b. that 90% of the students in the population should have their scores improve by between

 72.3 and 91.4 points. (not this answer)

c. None of the above

Question 2:

The distribution of times that a company's service technicians take to respond to trouble calls is normal with mean μ and the standard deviation s = 0.25 hours. The company advertises that its service technicians take an average of no more than 2 hours to respond to trouble calls from customers. From a random sample of twenty-five trouble calls to the company, you find that the average time service technicians took to respond to these calls was 2.10 hours. How strong is the evidence against the company's claim? To make this determination you decide to test the hypotheses *H*0: μ = 2 against *H*a: μ > 2. Based on these data, the P-value of the appropriate test is

a. less than 0.0002

b. 0.0228

c. 0.0456 (not this answer)

Question 3:

In comparing students who have transferred to my university from a junior college in the area, I want to know if the transfer students do as well as those who enter the university straight from high school. My alternate hypothesis is *H*a : μ*transfer* < μ*others*. I took a random sample of 100 students of each type and computed the z-statistic as -2.38. At a = 0.01, what decision do I make?

a. Reject H0 — transfer students do not do as well as those admitted from high school.

b. Fail to reject H0 — transfer students do just as well as those admitted from high school.

 (not this answer)

c. Accept H0 — transfer students do not do as well as those admitted from high school.