STAT 451_Hw 3

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7 : Ex 32, 38(b and c), 45, 47, 50, 52
32)

38b) Calculate 2 sided 95% interval confidence interval for the true average work adhesion for UHPC adhered to steel. Does the interval suggest that 107 is a plausible value for the true average work for adhesion for UHPC adhered to steel. What about 110?

38b) Predict the resulting work of adhesion value resulting from a single future replication of the experiment by calculating a 95% prediction interval, and compare the width of this interval to the width of the CI from (b).

45) Calculate a 99% CI for the standard deviation of the coating layer thickness distribution. Is this interval valid whatever the nature of the distribution? Explain.

47a) Estimate true average bond strength in a way that conveys information about precision and reliability.

47b) Calculate a 95% CI for the proportion of all such bonds whose strength values would exceed 10.

50) l of 99% is more appropriate than the 95% level used. What are the limits of the 99% interval?

52) a. Calculate and interpret a 95% CI for true average arsenic concentration in all such water specimens.

52b) Calculate a 90% upper confidence bound for the standard deviation of the arsenic concentration distribution.

52c) Predict the arsenic concentration for a single water specimen in a way that conveys information about precision and reliability.