

Tommy Norberg
October 28, 2011

HA2) Acceptance sampling by variables

1. Design a variables acceptance sampling plan that controls the lot fraction defective p , such that the probability of acceptance is $1 - \alpha_1$ at the acceptable quality level AQL_1 , and β_1 at the rejectable quality level RQL_1 . Assume σ known.
 - (a) Draw the OC curve. That is, plot P_a vs the lot fraction defective p .
 - (b) Plot P_a vs the lot mean μ . Assume $\sigma = 15$ and $LSL = 225$. What are the acceptable and rejectable quality levels in terms of the lot mean μ ?
2. Design a variables sampling plan that provide assurance regarding average quality μ . Assume that the quality is acceptable as long as $\mu \geq \mu_0$ and that the probability that an acceptable lot is rejected is α_2 . Assume further that the acceptance probability for lots with mean $\mu \leq \mu_a$ is at most β_2 . The known standard deviation is σ .

Deadline for solutions to this assignment is Wednesday, November 9, 2011.

Parameters and data are published at the course web page

<http://www.math.chalmers.se/Stat/Grundutb/CTH/mve145/1112/>
in the files `dataHA2.pdf` and `dataHA2.m`.