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Statistics for laboratory scientists II

Homework problems for lecture 1

1. Testing the case that the data correspond to the proportions 3:1, we got we got p-values in class for the case $n_A=78$ and $n_B=22$, using a likelihood ratio test and the chi-square test. Derive an alternate p-value by using the binomial distribution.
2. Assume we have the data $n_{AA}=35$, $n_{AB}=43$, $n_{BB}=22$. Test the hypothesis that the underlying proportions of AA:AB:BB are 1:2:1, using
 - a. the likelihood ratio test,
 - b. the chi-square test,