A large supermarket conducted a consumer preference study by recording the brand of wheat bread pruchased by customers in its stores. The supermarket carries four brands of wheat bread and the brand preferences of a random sample of 200 purchasers are given in the following table:

BRAND

A=51

B=82

C=27

D=40

Test the null hypothesis that the four brands are equally preferred by setting x equal to .05. Find a 95% confidence interval for the proportion of all purchasers who prefer brand B