Quick Questions 20 Nonparametric Hypothesis Testing of Nominal Data

I. Place the number of the formula or expression next to the concept it defines.

A. $\chi^2 =$ _____

B. Expected frequency f_e must be _____

C. f_e for a contingency table equals _____

D. Chi-square is the ratio of _____

E. df for use with a contingency table _____

F. df for a goodness of fit problem _____

1. $(n-1)s$ to σ^2	4. k - 1
2. $\frac{f_r \times f_k}{n}$	5. $\sum\left[\frac{(f_o-f_e)^2}{f_e}\right]$
3. ≥ 5	6. (r - 1)(c - 1)

II. Last year, 40% of Linda's customers rented 1 tape, 30% rented 2 tapes, 20% rented 3 tapes, and 10% rented 4 or more tapes. Below is last week's tape rental distribution for Linda's stores. Using the 5-step approach to hypothesis testing, test at the .05 level of significance whether there has been a change in the distribution of tape rentals. Each expected frequency will be the total of 1,000 observations multiplied by last year's appropriate percentage.

Tape Rental Analysis

	Observed Frequency (f_o)	Expected Frequency (f_e)			
1 tape	300				
2 tapes	250				
3 tapes	250				
4+ tapes	200				
Totals	1,000				

III. Is Linda happy with these test results? Why?