

## VISUAL SUMMARY

### Chi-Square

**Before You Begin:** State  $H_0$  and  $H_1$ .

Collect observed frequencies ( $f_o$ ).

Compute number of rows; number of columns.

Compute expected frequency ( $f_e$ ):

$$f_e = \frac{(\text{row total}) \cdot (\text{column total})}{\text{grand total}}$$

Compute chi-square ( $\chi^2$ ):

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Compute degrees of freedom ( $df$ ):

$$df = (\text{number of rows} - 1) \cdot (\text{number of columns} - 1)$$

Find the critical value in Table X

If  $\chi^2$  is greater than the critical value, then reject  $H_0$