CHI-SQUARE GOODNESS OF FIT TEST

This test is used to determine if observed counts are equal to a hypothesized distribution.

A researcher believes the Mars Company is misleading the public on its color distribution of M&Ms. He wants to compare the color distribution from a random sample of M&Ms to the Mars Company's expected values which are 10% brown, 20% red, 20% yellow, 10% green, 10% orange, 10% blue and 20% purple.

	Brown	**Red**	**Yellow**	**Green**	**Orange**	**Blue**	**Purple**
Sample	4	4	16	10	8	4	4
Expected							

H STATE NULL AND ALTERNATIVE HYPOTHESES:

A DETERMINE THAT CONDITIONS FOR TEST ARE ACCEPTABLE:

- Random
- Every expected count ≥ 5
- Independent

T PERFORM TEST:

a) Calculate Chi-Square statistic:

b) Determine Degrees of Freedom = Number of Categories – 1 =

c) Determine *P*-Value

i) Using Table C:

ii) Using calculator:

S STATE CONCLUSION IN CONTEXT