

Chi Square – Goodness of Fit

STEP	Goodness of Fit
State	<p>H_0: The stated distribution of (the categorical variable) in (the population of interest) is correct.</p> <p>H_A: The stated distribution of (the categorical variable) in (the population of interest) is not correct.</p> <p>$\alpha = \underline{\hspace{1cm}}$ (0.05 unless stated otherwise)</p>
Plan	<p>Check the following conditions:</p> <p>Random: Check to make sure the samples were taken randomly and are independent.</p> <p>10% condition: Check to make sure that 10 times our sample is less than the entire population.</p> <p>Large Counts: All <i>expected</i> counts must be at least 5. <u>SHOW THIS!</u></p> <p><i>Because our conditions are met, we will use a <u>Chi Square Test for Goodness of Fit.</u></i></p>
Do	<p>On the calculator, choose:</p> <p>STAT → TESTS → D: χ^2GOF-Test</p> <p><u>WRITE:</u></p> <p>$\chi^2 = (1^{\text{st}} \text{ term}) + (2^{\text{nd}} \text{ term}) + (3^{\text{rd}} \text{ term}) + \dots$</p> <p>Test statistic:</p> <p>df =</p> <p>p-value:</p>
Conclude (3 points)	<p>Because our P-value = $\underline{\hspace{1cm}}$ is greater/less than the significance level $\alpha = \underline{\hspace{1cm}}$, we (fail to) reject H_0. There is (not) convincing evidence that (alternative hypothesis).</p>