

STEP	Sample Proportions	Sample Means
<b>State</b>	$H_0: p = \underline{\hspace{1cm}}$ $H_A: p (<, >, \neq) \underline{\hspace{1cm}}$ Where $p =$ the true proportion of $\underline{\hspace{1cm}}$ . $\hat{p} = \underline{\hspace{1cm}}$ $\alpha = \underline{\hspace{1cm}}$ (0.05 unless stated otherwise)	$H_0: \mu = \underline{\hspace{1cm}}$ $H_A: \mu (<, >, \neq) \underline{\hspace{1cm}}$ Where $\mu =$ the true mean of $\underline{\hspace{1cm}}$ . $\bar{x} = \underline{\hspace{1cm}}$ units $\alpha = \underline{\hspace{1cm}}$ (0.05 unless stated otherwise)
<b>Plan</b>	Check the following conditions:  <b>Random:</b> Check to make sure the sample was taken randomly.  <b>10% condition:</b> Check to make sure that 10 times our sample is less than the entire population.  <b>Large Counts:</b> $n\hat{p} \geq 10$ $n\hat{q} \geq 10$  <i>Because our conditions are met, we will use a <u>1-sample z-test for the population proportion p.</u></i>	Check the following conditions:  <b>Random:</b> Check to make sure the sample was taken randomly.  <b>10% condition:</b> Check to make sure that 10 times our sample is less than the entire population.  <b>Normal/Large:</b> $n \geq 30$  If $n < 30$ , we must look at a graph of our data: <ul style="list-style-type: none"> <li>• Rough sketch</li> <li>• No strong skewness</li> <li>• No outliers</li> </ul> <i>Because our conditions are met, we will use a <u>1-sample t-test for the population mean <math>\mu</math>.</u></i>
<b>Do</b>	STAT > TESTS > OPTION 5  1-PropZTest: $p_0:$ $x:$ $n:$ $prop:$  test statistic (z) = p-value =  DRAW A PICTURE WITH LABELS & SHADING	STAT > TESTS > OPTION 2  T-Test: $\mu_0:$ $\bar{x}:$ $S_x:$ $n:$ $\mu:$  test statistic (t) = p-value = df =  DRAW A PICTURE WITH LABELS & SHADING
<b>Conclude</b>  <b>OR</b>	Because our P-value = $\underline{\hspace{1cm}}$ is greater than the significance level $\alpha = \underline{\hspace{1cm}}$ , we fail to reject $H_0$ . There is not convincing evidence that (alternative hypothesis).  Because our P-value = $\underline{\hspace{1cm}}$ is less than the significance level $\alpha = \underline{\hspace{1cm}}$ , we reject $H_0$ . There is convincing evidence that (alternative hypothesis).	Because our P-value = $\underline{\hspace{1cm}}$ is greater than the significance level $\alpha = \underline{\hspace{1cm}}$ , we fail to reject $H_0$ . There is not convincing evidence that (alternative hypothesis).  Because our P-value = $\underline{\hspace{1cm}}$ is less than the significance level $\alpha = \underline{\hspace{1cm}}$ , we reject $H_0$ . There is convincing evidence that (alternative hypothesis).