

Section 10.4 Hypothesis Tests for a Population Proportion

Objective: Test hypotheses about a population proportion.

Testing hypotheses about the population proportion, p , follows the same logic as the testing of hypotheses about a population mean with σ known. The only difference is that the test statistic is where p_0 is the value of the population proportion stated in the null hypothesis.

Hypothesis Tests Regarding a Population Proportion Using TI-83/84

1. Press **[STAT]**, highlight TESTS, and select **5: 1-PropZTest**
2. For the value of p_0 , enter the value of the population proportion in the null hypothesis.
3. Enter the number of successes, x , and the sample size, n .
4. Select the direction of the alternative hypothesis.
5. Highlight Calculate and press **[ENTER]**

Either the Classical or the P -value approach can be applied to determine the significance.

```
1-PropZTest
PROP≠.9
z=-1.490711985
P=.1360371882
p̂=.88
n=500
```

z = test statistic
 P = P -value

For left- or right-tailed test:

Critical Value = **[2nd]** **[DISTR]** **3:invNorm(α)**

For two-tailed test:

Critical Value = **[2nd]** **[DISTR]** **3:invNorm($\alpha/2$)**