

**TECHNOLOGY TOOLBOX** *Inference for a population proportion on the TI-83/89*

The TI-83/89 can be used to test a claim about a population proportion and to construct confidence intervals. Let's revisit Example 12.7, Buffon's coin-tossing activity.

In  $n = 4040$  coin tosses, Count Buffon observed  $X = 2048$  heads. Recall that our hypotheses were

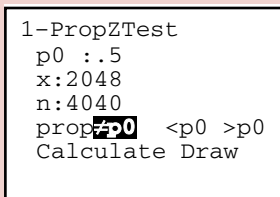
$$H_0: p = 0.5$$

$$H_a: p \neq 0.5$$

To perform a significance test:

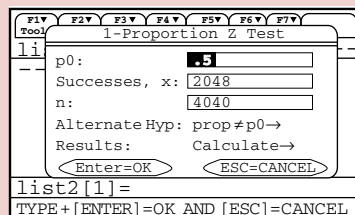
**TI-83**

- Press **[STAT]**, then choose TESTS and 5:1-PropZTest.
- On the 1-PropZTest screen, enter the values shown:  $p_0 = 0.5$ ,  $x = 2048$ , and  $n = 4040$ . Specify the alternative hypotheses as “prop  $\neq p_0$ .”

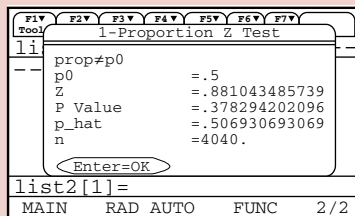
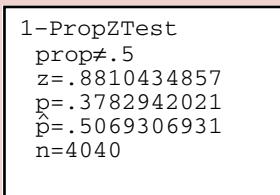


**TI-89**

- In the Statistics/List Editor, press **[2nd] [F1]** ([F6]) and choose 5:1-PropZTest.



- If you select the “Calculate” choice and press **[ENTER]**, you will see that the  $z$  statistic is 0.88 and the  $P$ -value is 0.3783.



- If you select the “Draw” option, you will see the screen show here. Compare these results with those in Example 12.7.

