

## TECHNOLOGY CORNER for Section 9.2, Page 561

### 18. One-proportion z test on the HP Prime

HP Prime can be used to test a claim about a population proportion. We'll demonstrate using the example on page 559, *One Potato, Two Potato*. In a random sample of size  $n = 500$ , the supervisor found  $X = 47$  potatoes with blemishes.

- To perform a significance test:
  - Press **Apps** and tap the *Inference* app icon.
  - Select the **Method** field, tap **Choose** and select *Hypothesis Test*
  - In the **Type** field, select *Z-Test: 1  $\pi$*
  - For the alternative hypothesis, select  $\pi > \pi_0$

- Press **Num** to enter Numeric view. Enter  $x=47$ ,  $n=500$ ,  $\pi_0=0.08$ , and  $\alpha=0.05$ .

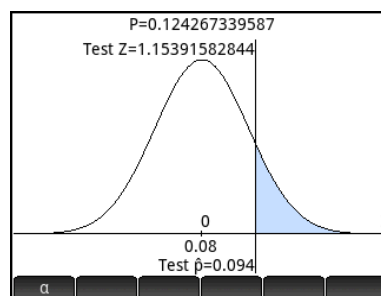
- Tap **Calc** to see the results numerically.

Results	
Result	1
Test Z	1.15391582844
Test $\hat{p}$	0.094
P	0.124267339587
Crit. Z	1.64485362695
Crit. $\hat{p}$	0.101466946812
Fail to reject $H_0$ at $\alpha=0.05$	
More OK	

- Tap **OK** to return to Numeric view

- You can also view the confidence interval graphically.

- Press **Plot** to see Plot view. The test probability is shown at the top, with the test z and  $\hat{p}$  values.



- Tap  **$\alpha$**  for an alternate view of the test results. Here, the area associated with the alternative hypothesis and  $\alpha$ -level is shown shaded in blue. The test z and  $\hat{p}$  values are shown as well. The test values are clearly not in the shaded reject region. Press **▲** and **▼** to increase and decrease the  $\alpha$ -level.

