



## TECHNOLOGY CORNER

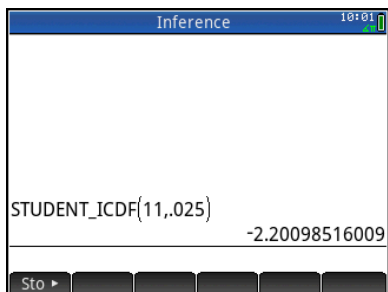
### 16. Inverse $t$ on the HP Prime

HP Prime allows you to find critical values  $t^*$  using the inverse  $t$  command. As with the inverse Normal command, you have to enter the *area to the left* of the desired critical value. The inverse  $t$  command on the HP Prime is `STUDENT_ICDF()` and the syntax is `STUDENT_ICDF(degrees of freedom, area to the left)`. Let's use the inverse  $t$  command to find the critical values in parts (a) and (b) of the example.

- a) What critical  $t^*$  value should be used to create a 95% confidence interval based on an SRS of size  $n=12$ ?

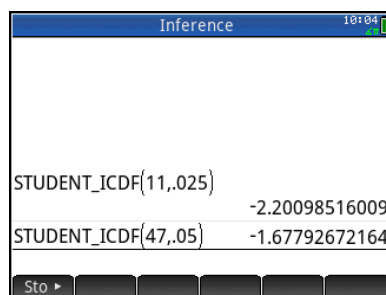
- Our 95% confidence interval requires a  $t^*$  value with area to the left of 0.025 and 11 degrees of freedom ( $n-1$ )
- Press to go to the Home view
- Press , tap *Probability*, then tap *Inverse* and select *T*
- Complete the command `STUDENT_ICDF(11,0.025)` and press

Enter



- b) What critical  $t^*$  value should be used to create a 90% confidence interval based on an SRS of size  $n=48$ ?

- Our 90% confidence interval requires a  $t^*$  value with area to the left of 0.05 and 47 degrees of freedom
- Repeat the first two steps from part a) and enter the command `STUDENT_ICDF(47, 0.05)`



Note that the  $t$  critical values are  $t^* = 2.201$  and  $t^* = 1.678$ , respectively.