Using t-tests on a TI-83 / 84

A couple quick notes on t-distributions on the TI-83 / 84.

- To compute the cumulative distribution function for the t distribution with $n-1$ degrees of freedom, under DISTR select tcdf. Then enter

$$tcdf(start, stop, n-1)$$

- It is less obvious how to compute the inverse t function, ie given a confidence level C how to compute t^* such that $tcdf(-t^*, t^*, n-1) = C$. One way I've found you can do this is to use the equation solver numerically. (This is slightly different from the method I put up on the board in class since it tells you t^* directly without first computing the area of a tail).
  - Go to MATH, 0: SOLVER
  - For the equation (hit up if necessary to get there), set $0 = tcdf(-X, X, n-1) - C$ where X is the variable X, $n-1$ is the number of degrees of freedom, and C is the confidence you want.
  - Hit ENTER, then SOLVE (ALPHA + ENTER)
  - The calculator should think for a while - as indicated in the upper right corner - then come back with a value for X. This is your t^* value.
  - You can always verify your answer by computing the confidence $tcdf(-t, t, n-1)$ where t stands for whatever value you found in the solver.