Independent t-tests

To calculate an independent t-test in Excel

- Choose the variables that you want to use as the independent, variable and the independent variable, group variable that you want to calculate an independent t-test for. I will use Q1 and MarStat.
- Highlight the column for MarStat, the independent, group variable, and copy it to an empty cell to the right of the data set. I will place it in the R column.
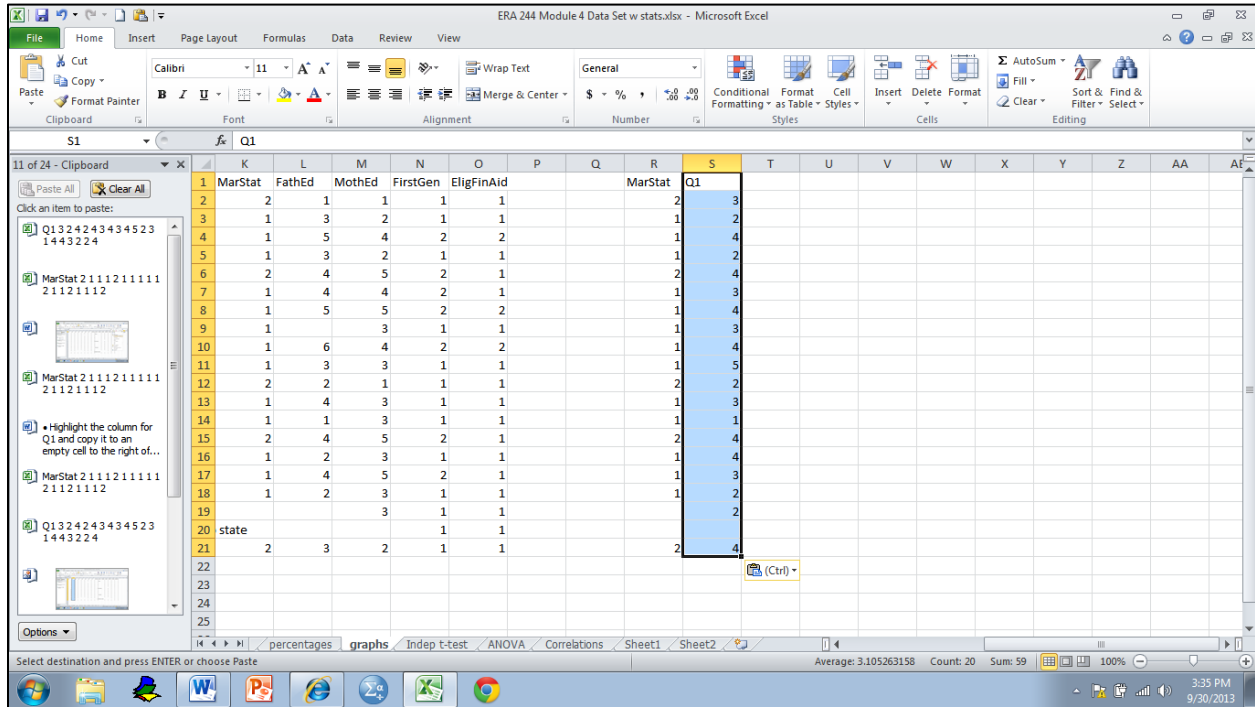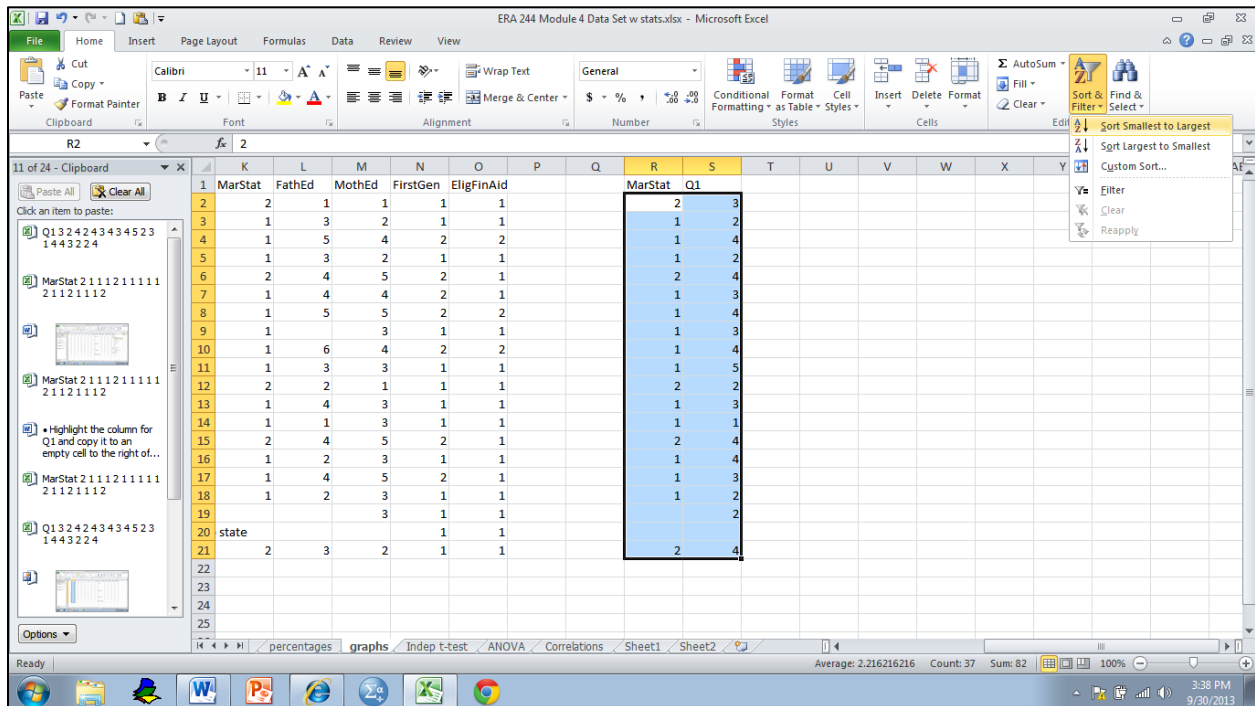
- Next highlight the column for Q1 and copy it to an empty cell to the right of the column you just copied. I will place it in the S column.


- Highlight both columns you just copied.
- In the menu row, click on "Sort & Filter", drag the cursor down to "Sort Smallest to Largest" and click again.


- The data in your cells will now look like this. Marital Status will be sorted into 1's first and then 2's, and the associated number for each person's Q1 response will be moved so that the responses for each individual stay together.
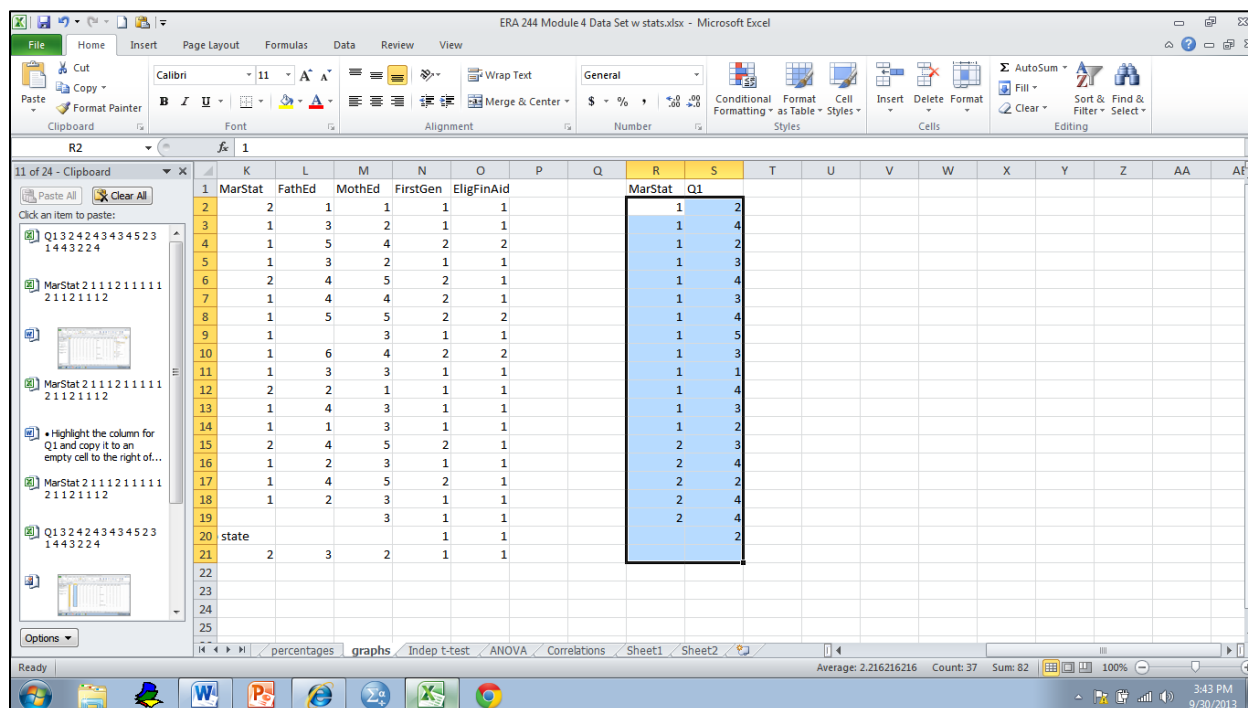
- Now highlight all the Q1 responses for those who have a 2 for Marital Status and paste those into Cell T2. Notice I didn't copy the last score because it didn't have an associated Marital Status data point.
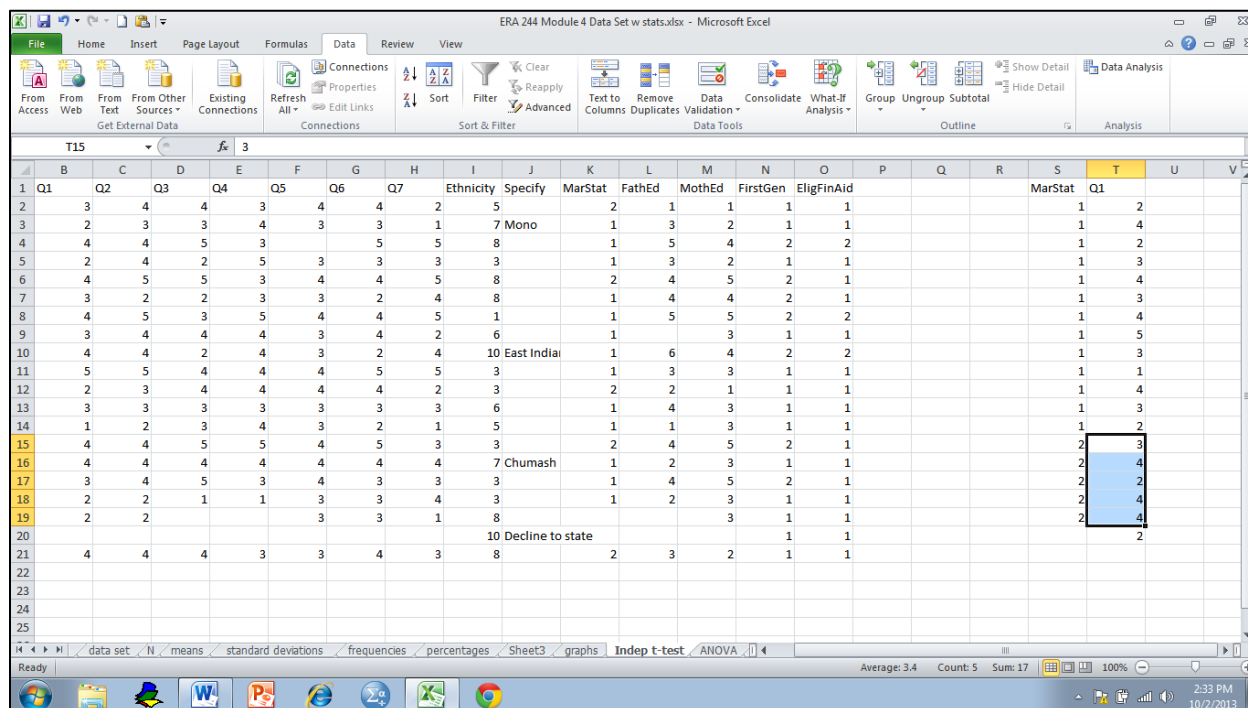

- Now go back and label Cell T1 as "Single" and Cell U1 as "Married". You are now ready to calculate a t-test.
- Click on Data Analysis and drag the cursor down to "t-test" Two Sample Assuming Equal Variances" and click on OK.
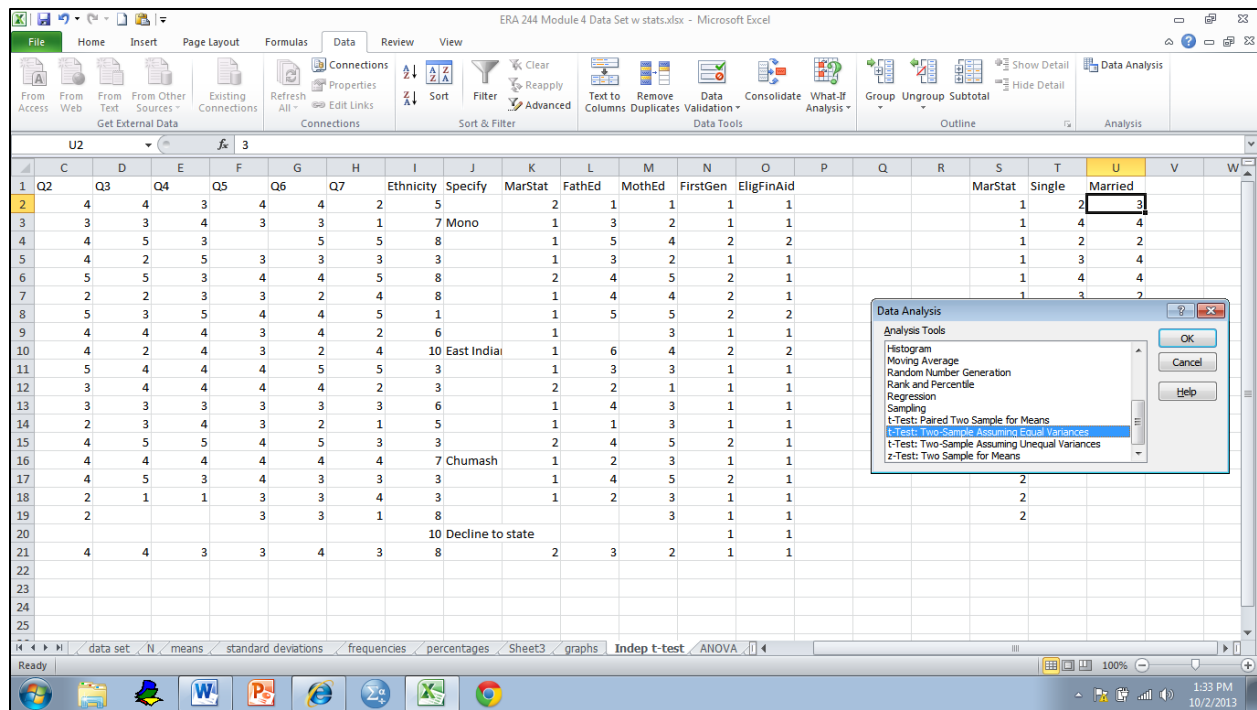
The following box will appear.
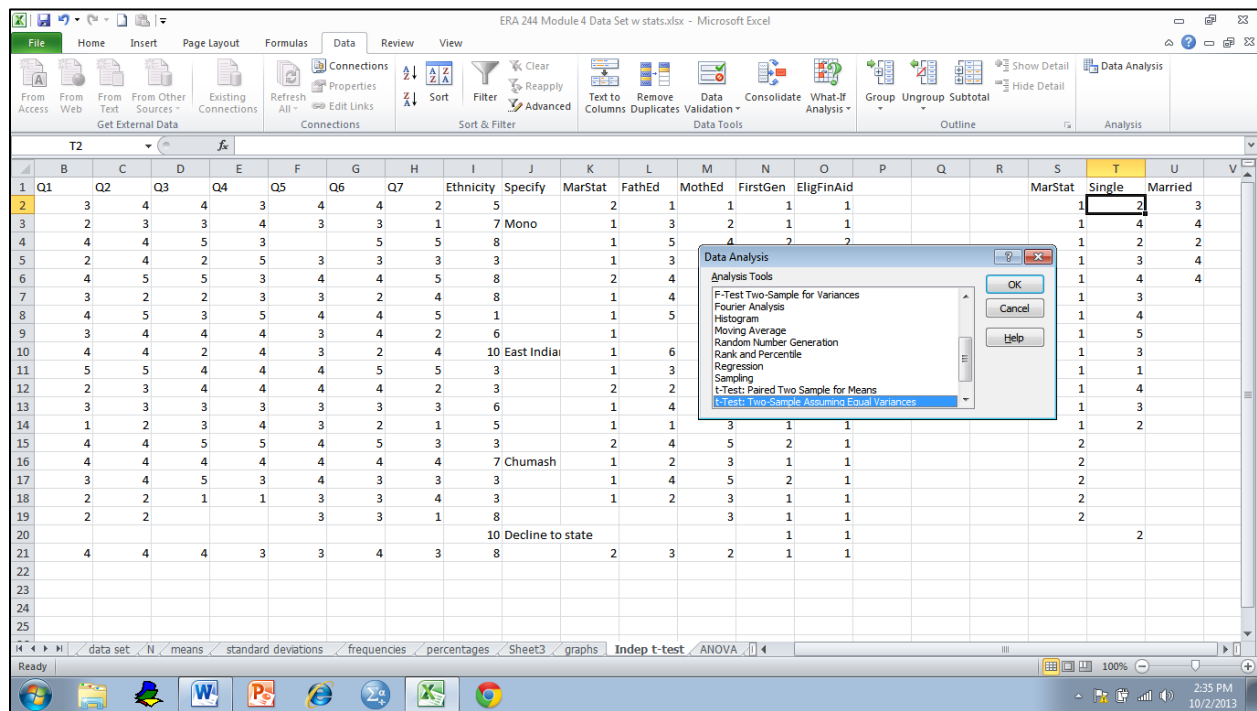
- Type in the cells where the label and data for single students appear T1:T14.
- Then type in the cells where the label and data for married students appear U1:U6.
- Type in "0" for the hypothesized mean difference.
- Click in the box by labels (If you don't type in the cell for the label, you don't have to check this box.
- Click on Output range and give an empty cell for the results to be printed in. Here it is S23.
- Click on OK.
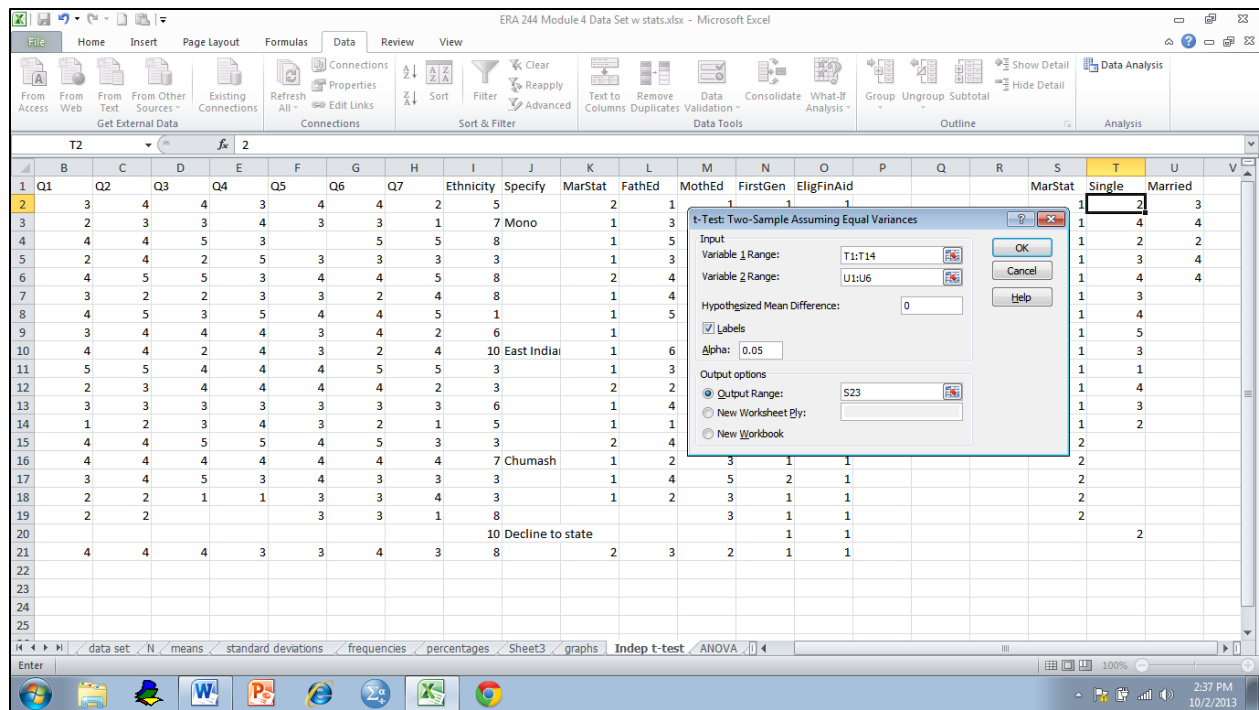
Your data will appear below. Notice that the means are labeled according to the column labels.

t-Test: Two-Sample Assuming Equal Variances

	Single	Married
Mean	3.076923	3.4
Variance	1.24359	0.8
Observations	13	5
Pooled Variance	1.132692	
Hypothesized Mean Difference	0	
df	16	
t Stat	-0.57686	
P(T<=t) one-tail	0.286031	
t Critical one-tail	1.745884	
P(T<=t) two-tail	0.572062	
t Critical two-tail	2.119905	
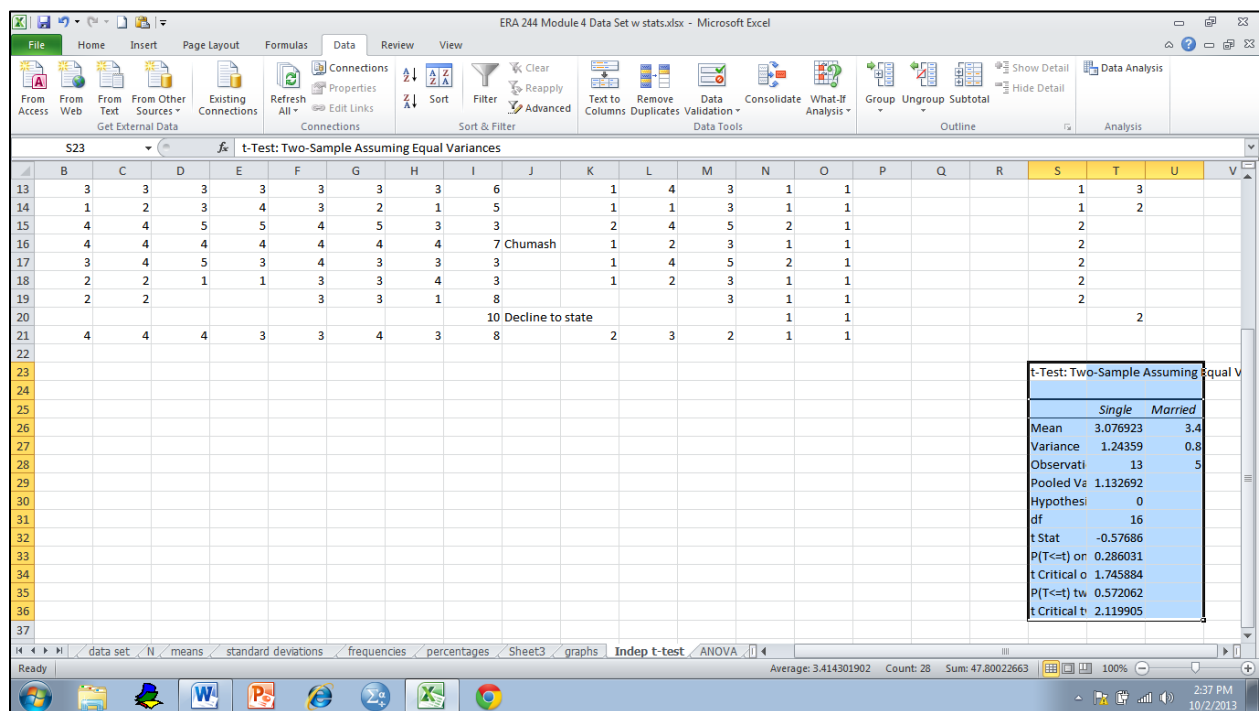
I have copied the results into this Word file. I highlighted the means and variances in red. The df or degrees of freedom at 16, the one-tailed t value and probability are in blue. For a two-tailed test, the df and t are the same, and the probability is in green.

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