Prince Sultan University

STAT 271
Second Examination
First Semester 2013/2014, Term 131
Thursday, 7th November 2013
Dr. Bahaa El-din Abdalla

Time Allowed: 45 minutes

Maximum points: 20 points

Name: _____ _____ _____ ID Number: _____

(First) (Middle) (Last)

Important Instructions:

1. You may use CASIO scientific calculator that does not have programming or graphing capabilities.
2. Don't use notes or any notebook.
3. There should be NO talking during the examination.
4. You must show all your work beside the problem. Be organized.
5. You may use the back of the pages for extra space, but be sure to indicate that on the page with the problem.
6. This examination has 4 problems, some with several parts. Make sure that your paper has all these problems.

Problem	Max points	Student's Points
1,2	10	
3,4	10	
Total	**20**	

Q1 (4 points) Determine the *P*-value in each case.

1. $F = 9.5,\ \text{d.f.N} = 5,\ \text{d.f.D} = 8,$ two-tailed.

2. $t = -1.03,\ n = 34$, two-tailed

Q2 (6 points) Independent random samples from two normal populations with variances σ_1^2 and σ_2^2 respectively produced the following summary of the data:

	Population 1	Population 2
Sample size	26	18
Sample Variance	36	10

At $\alpha = 0.05$, is there a difference between the variances of the two populations?

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Q3 (4 points) Find the 95% confidence interval for estimating the mean difference based on these paired data and assuming normality:

Before	75	68	40	30	43	65
After	70	69	32	30	39	63

Q4 (6 points) In a sample of 80 Americans, 55% wished that they were rich. In a sample of 90 Europeans, 45% wished they were rich. At $\alpha = 0.01$, is there a difference in the proportions of Americans and Europeans?