

COURSE: MSCI 3710

Print Name:

Final Exam

Signature:

Version B

S.S. #:

Fall 2002

Seat Number:

Instructions:

- Please print your name, social security number, and seat number on this exam. Also, put your signature on this exam.
- On your scantron **PRINT** your name, your version, and your seat number. To better protect your privacy also print your name on the back side of your scantron.
- You have 105 minutes to complete this exam. The exam is open book, open notes, and open mind. You may use any type of calculator but please show all your work on the exam and mark all answers on the scantron.
- Many of the questions follow the format of those in Adventures in Business Statistics. The remaining questions are either based on the Excel assignment or use an Adventures-like approach with problems nearly identical to those assigned in the textbook.
- When you have completed the exam, please insert your scantron into the exam booklet and turn them into your instructor.
- No cheating.
- Good luck and we wish you well on the exam.

Note: Whenever question(s) are connected you may be asked to assume a result (given a value) from the previous question but this result may or may not be correct. This is to prevent you from losing points on a second question because you made a mistake on a previous question.

Use the information given in the following paragraph to answer the next **three** questions. (Kvanli Chapter 9)

In May 2001, American Institutes for Research conducted a comparative evaluation of two applications, Office XP and Office 2000 and made the results publicly available. During the study, a group of users was confronted with 11 tasks and their completion times (in minutes) were recorded. The tables below present the average completion times for each of the 11 tasks and their statistical analysis. Is it true that completion times using Office XP were shorter?

Task	Office XP	Office 2000
1: Combine PowerPoint slides	02:30	03:00
2: Diagram in PowerPoint	01:00	04:17
3: Design template in PowerPoint	00:31	01:35
4: Another design template in PowerPoint	00:21	01:18
5: Fix formulas in Excel	04:22	04:53
6: Paste an Excel table into Word	00:50	03:42
7: Import Web info into Excel	01:08	07:31
8: Appointment reminders in Outlook	00:07	00:15
9: AutoCorrect options in Word	04:22	06:05
10: Headings formatting in Word	03:20	04:28
11: Merge info from e-mail into Word	01:35	06:38

t-Test: Paired Two Sample for Means

	Office XP	Office 2000
Mean	01:50	03:58
Variance	2.4657	5.2995
Observations	11	11
Pearson Correlation	0.5011	
Hypothesized Mean Difference	0	
df	-----	
t Stat	-3.4962	
P(T<=t) one-tail	0.0028	
t Critical one-tail	2.7638	
P(T<=t) two-tail	0.0057	
t Critical two-tail	3.1693	

1. What are the decision and conclusion using a **dependent** samples t-test if the test is conducted at the 5% significance level?
 - A. Reject the null hypothesis; conclude Office XP is faster.*
 - B. Fail to reject the null hypothesis; conclude Office XP is faster.
 - C. Fail to reject the null hypothesis; conclude there is insufficient evidence for Office XP being faster.
 - D. Reject the null hypothesis; conclude Office XP is not faster.
 - E. There is insufficient information to decide whether Office XP is faster.

2. How many degrees of freedom do we have in the distribution of the test statistic?
 - A. 22
 - B. 21
 - C. 11
 - D. 20
 - E. 10 *

3. What is the critical value of the test statistic for this test if the test is conducted at the 1% significance level?
 - A. 3.17
 - B. 2.76 *
 - C. -3.50
 - D. 2.47
 - E. 5.30