

BIOS 600 · Quiz 8.1: Nonparametric Methods

Fall 2011

1. **Honor Pledge:** I have neither given nor received unauthorized aid on this assignment.
(Sign and print your name.)

2. Which cell in the table corresponds to power? Mark on the cell.

		Truth	
		H_0	H_1
Test Result	H_0		
	H_1		

3. A researcher has collected blood iron levels from 20 patients. Patients were recruited from 5 hospitals (4 patients from each hospital). Which test should the researcher use to compare the blood iron level at each hospital?

- (a) Paired t Test
- (b) Wilcoxon-Rank-Sum Test
- (c) Binomial Proportion Z test
- (d) t Test
- (e) Wilcoxon-Signed-Rank Test
- (f) 2 Sample t Test
- (g) Sign Test
- (h) Kruskal-Wallis Test

4. The t test can be sensitive to _____, whereas the Wilcoxon-Signed-Rank test is not.

5. You are working with a researcher who has collected performance scores from 8 students from class A and 7 students from class B. The researcher would like to compare class A and class B in terms of performance. Which test statistic is appropriate?

- (a) Kruskal-Wallis Test
- (b) Binomial Proportion Test
- (c) Sign Test
- (d) t Test
- (e) Paired t Test
- (f) Wilcoxon-Signed-Rank Test
- (g) 2 Sample t Test
- (h) Wilcoxon-Rank-Sum Test

6. True or False? A t-test is always preferred to its non-parametric equivalent when the sample size is large, say $n = 100$.

7. Researchers have developed a dry eye drop, and they are interested in comparing its performance to the standard treatment. To each of the 30 patients in the study, the researchers administer the new treatment in one eye and the standard treatment the other eye. After a week, researchers record a measure of eye dryness. Select all the tests statistics the researchers might use to analyze this data.

- (a) Paired Wilcoxon-Signed-Rank Test
- (b) Wilcoxon-Rank-Sum Test
- (c) Binomial proportion Z test
- (d) 2 Sample t Test
- (e) Kruskal-Wallis Test
- (f) Wilcoxon-Signed-Rank Test
- (g) t Test
- (h) Paired t Test