Course _____   Name _____

Date _____   4-digit Code_____

Pre-/Post-Test on Big Datasets

Please choose a 4-digit code that you'll be able to remember (such as the last four digits of your phone number) and enter it in the line above and in the "Special Codes" section of your bubble sheet.

Please answer the multiple choice questions on the bubble sheet.

There are two images or tables at the end which may be used to answer some of the following questions. They have the same data (numbers) but different sections are highlighted. Feel free to tear the pages off.

1. The highlighted table section in Image 1, labeled D and going all the way up and down, is called a _____.
    - a. Cell
    - b. Column
    - c. Header
    - d. Row

2. This type of plot or chart lets you examine one column of data and find its distribution.
    - a. Column plot
    - b. Histogram
    - c. Polygraph
    - d. Scatter

3. Quasars are…
    - a. star clusters
    - b. pulsating stars
    - c. cores of active galaxies
    - d. nearby extremely bright stars

4. If we wanted to look at a bunch of information about only one object, we would look at _____.
    - a. the up-and-down area labeled D in Image 1
    - b. the left-to-right area labeled 12 in Image 2
    - c. a single cell, such as D12
    - d. that information is not available here

5. Based on the tables, which of the following quasars is closest to us?
    - a. 00084063+011419.1
    - b. 004332.71+002459.8
    - c. 021231.56-074459.7
    - d. 032103.15+010927.6

6. If a quasar had very strong jets we would expect it to be _____ in radio emission.
    a. bright or loud
    b. dim or quiet
    c. same as if it had weak jets
    d. not enough information to answer

7. Which of the following would be good evidence to show that quasars are all located far away?
    a. They are all located in a similar part of the sky.
    b. They all have large values for the redshift.
    c. They all are faint in radio emission.
    d. They are all not optically resolved.

8. If you wanted to study quasars with similar types of jets, which of the following would you want to have similar values?
    a. Declination
    b. Radio magnitude
    c. Redshift
    d. Right Ascension

9. Compare and contrast a row to a column. Describe the differences and similarities between them, as well as what sort of information tends to go in each.

10. Explain how a graph such as a histogram or scatter plot could help you determine whether there are any trends or flaws in a dataset.

11. What steps would you use to approach a large dataset? Explain why you would take these steps and how these steps can help you to evaluate the information contained in the dataset.

Name	RA	Dec	Redshift (z)	Visible magnitude	FIRST (Radio) magnitude
000840.63+011419.1	2.169302	1.238649	1.073	20.469	0
001709.81-001845.5	4.290887	-0.31265	1.2906	20.637	0
001750.60+004543.0	4.460848	0.761962	1.4039	19.832	0
001952.35-003034.2	4.968129	-0.509503	1.5946	21.189	0
002948.54+004447.5	7.452276	0.746545	1.0078	20.164	0
003622.69-001852.2	9.094549	-0.314513	0.8622	19.952	0
004332.71+002459.8	10.886296	0.416634	1.1283	19.391	11.311
004647.37-005100.1	11.697386	-0.85003	0.8406	18.835	0
010046.78-105755.0	15.194939	-10.965297	0.8774	19.337	0
011702.88+001813.1	19.262027	0.303646	1.7804	20.472	0
012204.65+003932.9	20.51941	0.659155	1.6319	20.068	0
012655.94+005232.4	21.733108	0.875691	1.3892	19.597	0
013917.69-000004.6	24.823744	-0.001278	0.9876	20.224	0
013944.45-003853.8	24.935212	-0.648278	1.1713	19.826	0
014158.80+005003.0	25.495015	0.834194	1.4042	20.766	0
021231.56-074459.7	33.131529	-7.749943	0.3697	19.081	0
024954.38+003654.2	42.476622	0.615079	1.7199	19.976	0
025836.27-002752.1	44.651163	-0.464475	1.0142	20.448	0
031544.54+004220.8	48.935609	0.705801	1.8797	19.124	0
032103.15+010927.6	50.263143	1.15767	1.8622	20.413	0
072638.22+390502.7	111.659274	39.084095	0.807	19.276	0
073406.75+273355.6	113.528125	27.565445	1.9163	17.082	0

Image1

Name	RA	Dec	Redshift (z)	Visible magnitude	FIRST (Radio) magnitude
000840.63+011419.1	2.169302	1.238649	1.073	20.469	0
001709.81-001845.5	4.290887	-0.31265	1.2906	20.637	0
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032103.15+010927.6	50.263143	1.15767	1.8622	20.413	0
072638.22+390502.7	111.659274	39.084095	0.807	19.276	0
072406.75+273355.6	113.528125	27.565445	1.0163	17.082	0

Image 2