

SMTH 102 Practice Test I

to accompany Brase text

1. Urban planners think that the mean family size in Greenville has changed since the last census. Before constructing more public housing, information on the size of incoming families must be gathered. They decide to take a random sample of 121 recent "immigrant" families and use the data in their planning. Circle the correct responses: The data will be used at the (nominative, ordinal, interval, ratio) level. The ultimate use to which the data will be put is (inferential, descriptive) in nature.

2. The following data list the ages of faculty members in the psychology department of Exothermal College. Draw an ordered stem and leaf plot to graphically illustrate whether or not the bulk of the faculty are nearing retirement.

61,71,32,37,38,38,49,55,61,64,68,74,65,62,63, 63,63,57, 42,45, 33,47, 34, 29, 29.

3. Data Set A below lists the scores on a test administered at 10:50 a.m. to students who had not had breakfast. Data Set B lists scores on a similar test by the same students on a day when each had an oat bran breakfast.

A: 55 75 61 73 73 58 79 64 77 57 78 60 68 72 68 72 69 81 83 99 62 92 70 63 75 85 95 87 97 70 88 99

B: 58 75 60 88 70 65 79 89 84 59 90 59 69 88 78 78 69 85 90 84 85 90 78 69 79 88 92 98 91 90 98 92

a) Using the attached answer sheet, complete a descriptive analysis of Data Set A. Use [50, 60) as your first class interval.

b) Draw a five-number-summary box and whiskers plot for **each data set**. Use the same scale (i.e., one graph) for comparison of the data sets.

c) Find the equation of the least square line to predict the with-breakfast score from the without - breakfast score.

Correlation Coeff = _____
Is the correlation significant at the 0.05 level of significance? _____

d) What is the coefficient of determination r^2 ? _____. What does it tell you about the variation in your dependent (response) variable? _____

e) If you made 75 without breakfast, predict your with-breakfast score. _____

f) If you made 75 with breakfast, predict your without-breakfast score. _____

g) Statistically speaking, can you put more credence in your answer to e) or f)? _____

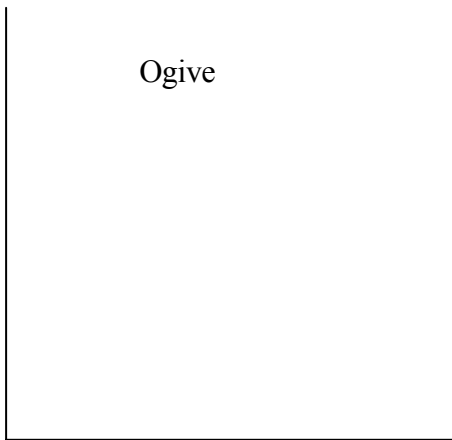
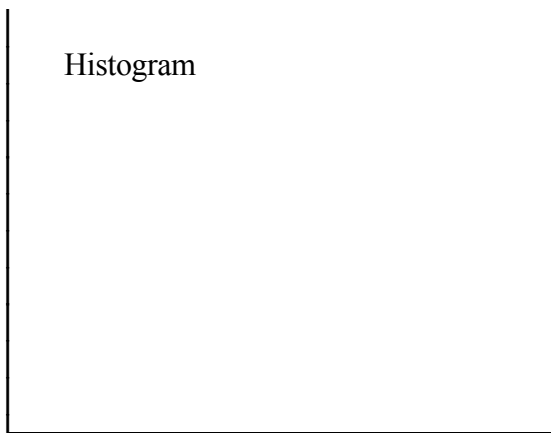
Class Num. Class Limits Class Mark Tally Frequency f Relative Frequency Cumulative Frequency

1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Mean = _____ Median = _____ Q_1 = _____ Q_3 = _____

S^2 = _____ S = _____ Range = _____ Mode = _____.

(Record σ^2 = _____ σ = _____ , instead, if appropriate.)



Box Plot(s):
(Number as needed)

