Math 132 Test #1 Chapters 1-4

Feb 12th/[redacted]

Name _____

Given the following data:

Following are the numbers of whales seen breaching on sixty whale-watching trips off the cost of Baja California: Oct + Nov 2003

10	18	14	9	7	3	14	16	15	8	12	18
13	6	11	22	18	8	22	13	10	14	8	5
8	12	16	21	13	10	7	3	15	24	16	18
12	18	10	8	6	13	12	9	18	23	15	11
19	10	11	15	12	6	4	10	13	27	14	6

I Fill in the table:

	limits	Tally	f	x Marks	u	uf	u^2	u^2f
1)	0-4							
2)	5-9							
3)								
4)								
5)								
6)								

II

1) for the "raw" data find the mode if it exists — ans [ ]

2) " " " " " " range ans [ ]

3) " " " " " " midrange ans [ ]

III Now using the table above

1) Compute mean

2) Median

III continued

3) Standard deviation

4) Variance

5) Modal class

6) (i) Pearson's coefficient of Skewness

(ii) Comment on the distribution

7) Q_1 and Q_3

8) P_{40}

9) Coefficient of Variation

IV a) Draw a Histogram

b) Draw an Ogive

IV 1) according to Chebyshev's Thm, how much of the data will be within 1.75 standard deviations of the mean?

ans [ ]

2) for #1, V what are the actual values? (Between what 2 #'s will we find at least the above %)

ans [ ]

3) what would be the "z" score for:

a) 9 whales ans [ ]

b) 12 whales ans [ ]

c) 30 whales ans [ ]

VI Given a **normal** distribution with $\mu = 70$, $\sigma = 12$ and $N = 500$

a) find the % of the distribution that will be between 58 and 82 ans [ ]

b) Same as above between 34, ~~96~~ 106 ans [ ]

c) How many data are between 58 and 82? ans [ ]

d) How many data are not between 58, 82? ans [ ]

e) Convert to Z scores

i) 50 ans [ ]

ii) 70 ans [ ]

VII Given: from a table

$x_1 = 2$ $x_2 = 4$ $x_3 = 6$ $x_4 = 8$

$f_1 = 1$ $f_2 = 3$ $f_3 = 3$ $f_4 = 2$

find:

a) $\sum_{i=1}^{4} x_i$ b) $\sum_{i=1}^{4} x_i f_i$

c) $\sum_{i=1}^{4} x_i^2 f_i$

using the above

d) Calculate $\bar{x}$

e) Calculate s

VIII Problems:

1) Explain why it is impossible to have: $n = 6$ $\sum x = 18$ and $\sum x^2 = 47$ for a given set of data

2) ---

An instructor counts the final examination in a course four times as much as each of three one-hour examinations. Which of two students has a higher weighted average score, the one who received scores of 72, 80, and 65 in the one-hour examinations and an 82 in the final examination, or the one who received scores of 81, 87, and 75 in the one-hour examinations and a 78 in the final examination?

3) a) what is a parameter?

b) what is a statistic?