

Test I

MAT 203, Elementary Statistics, Term IV
Coker College

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Please complete the following problems. You may use a $4'' \times 6''$ formula sheet, a calculator and paper and pencil, but you may not use your text or any other resources. You must work alone. Please write legibly. **You must show your work in order to receive full credit.** Please write out any formulae that you use so that I can understand how you did the problem. You may, of course, check your answers using the statistical functions on your calculator. This test counts 15% toward your final grade. Good Luck!

1. Two hundred students take a test. The mean score on the test is 70 out of 100 with a standard deviation of 10. You do not know the distribution of the scores. Nevertheless, calculate the minimum number of students that have scores that are between 50 and 90.

2. Now suppose that the distribution of scores for the above problem is a normal or bell-shaped distribution. About how many students scored between 50 and 90?

(For problems 3 - 10) Bob the Baker is notoriously picky about his bread. He is concerned that when his employees slice his fresh baked loaves, they don't cut each loaf into the same number of slices each time. He wants measure the severity of the problem. He chooses at random 30 loaves off his shelf. He then counts the number of slices in each loaf. His results are shown in Table 1.

3. Calculate the relative frequency of finding 26 slices in a loaf.

4. Draw a histogram of this distribution.

5. What is the mode of this distribution?

6. What is the mean of this distribution?

7. What is the median of this distribution?

8. What is the standard deviation of this distribution?

9. Calculate the range of this distribution.

10. Calculate the interquartile range for this distribution.

Number of Slices per Loaf	Number of Loaves of Bread
22	3
23	5
24	7
25	9
26	3
27	0
28	3

Table 1: The first column shows the number of slices found in a particular loaf of bread, and the second column gives the number of loaves with that many slices.