

STA 2215
1st Exam
Spring 2003
Dr. Olsh

SHOW ALL CALCULATIONS

1.	Class	Frequency
	1-5	1
	6-10	4
	11-15	7
	16-20	5
	21-25	8

a) develop a cumulative "more than _____" distribution

b) calculate the mean

c) calculate the median

d) calculate the second quartile

e) calculate the seventy-first percentile.

2. The following are the numbers of minutes that a woman, on her way to work, had to wait for the bus on 7 working days: 10, 2, 17, 6, 8, 3 and 30.

(a) Find the mean.

(b) Find the standard deviation.

(c) Find the median.

(d) Find the first quartile.

(e) For the previous six working days the coefficient of variation was 15%. Do the observations above show more or less variation?

3. For each of the past three weeks the average amount of coal mined per hour was 200, 150 and 175 pounds respectively. Due to closures, the weeks did not have an equal number of hours. Week 1 had only 30 hours of work, while weeks 2 and 3 had 40 and 50 hours of work, respectively. What was the mean amount of coal mined per hour for the three weeks together?

4. Last week Claycombe played golf everyday: over seven days he averaged 81 with a standard deviation of 5 strokes—his best score a 71. Over the same seven-day period, Phillips averaged 101 with a standard deviation of 10 strokes—his best score a 93. Which of the golfers was more consistent over the seven-day period?

5. The dollar total of tips received by a waiter at a swanky restaurant was \$300 from the 30 parties that he served on Friday and Saturday night. Just for fun the waiter squared each tip and summed the squares to get 3750 dollars squared. What was the mean and standard deviation of his tips for those two days?
6. a) Having kept records for many years, Mrs. Jones knows that it takes her on the average 48 minutes to get to work; the standard deviation is 2.2 minutes. If she leaves her home each morning at 2 minutes after 8, at least what percentage of the time does she arrive at work between 21 minutes before 9 and 1 minute after 9?
- b) An airline's records show that at least 75 percent of its flights between two cities arrive anywhere between 2.6 minutes late and 8.2 minutes late (with a standard deviation of 1.4 minutes). On average, how many minutes late are the flights?

- c) At least what percentage of a group lies between the values 3 and 9, if the mean is 6 and the standard deviation is 1?
7. a) If the value of the Pearsonian coefficient of skewness is 3, what do we know about the difference between the mean and median?
- b) If we multiply the mean of some sample data by the size of the sample, what do we get?

Please sign the following: I have neither given nor received unauthorized aid on this piece of work, nor have I knowingly tolerated any violation of the Honor Code.
