

You MUST use good notation and show appropriate work.

**Math 102**  
(Section 14.2/14.3)

Name \_\_\_\_\_

1. Let data set  $A = \{5, 6, 8, 8, 10, 11\}$  and data set  $B = \{2, 4, 8, 8, 9, 17\}$ . Determine the mean, median and mode for each of the data sets. What do you notice? Are the two data sets equal?

2. Joe scored 72, 76, and 80 on 3 hour exams. (a) What did Joe score on the fourth exam in order to raise his mean score to 81? (b) What was Joe's median score on the four exams? (c) Would Joe prefer that his instructor use the median rather than the mean when determining Joe's grade in the course?

3. Calculate the mean and median for the following grouped data.

$x$	6	8	10	14
$f$	5	8	9	4

( $x$  is the data value and  $f$  is the frequency, )

mean \_\_\_\_\_

median \_\_\_\_\_

4. The following statement appeared in the 4/27/06 issue of Advocate, "By graduation, the average MSUM senior this year will have accumulated \$23,360 in debt." There are several questions that need to be answered before this statement can be interpreted correctly. What are those questions?

5. Construct a box-and-whisker plot for the following data set.

21, 24, 15, 45, 18, 31, 26, 41, 23, 18, 44, 27, 36, 21, 43

6. Recall the data sets  $A = \{5, 6, 8, 8, 10, 11\}$  and  $B = \{2, 4, 8, 8, 9, 17\}$  from problem #1 had common measures of central tendency. Calculate the range and standard deviation of each of these data sets.

range (A) = \_\_\_\_\_

range (B) = \_\_\_\_\_

$S_A =$  \_\_\_\_\_

$S_B =$  \_\_\_\_\_

7. Calculate the mean and standard deviation for the following grouped data. First complete the table.

$x$	$f$	$xf$	$x - \bar{x}$	$(x - \bar{x})^2$	$(x - \bar{x})^2 \cdot f$
1	2				
3	3				
4	10				
5	4				
9	1				
<i>Sum</i>					

**Mean** = \_\_\_\_\_

**Standard Deviation** = \_\_\_\_\_

8. Calculate the mean, standard deviation and coefficient of variation for the given frequency distribution.

$x$	$f$	$xf$	$x - \bar{x}$	$(x - \bar{x})^2$	$(x - \bar{x})^2 \cdot f$
8	3				
9	2				
10	1				
11	2				
12	3				

**Mean** = \_\_\_\_\_

**Standard Deviation** = \_\_\_\_\_

**Coefficient of Variation** = \_\_\_\_\_