

LESSON
1-1

Practice A

Measures of Central Tendency and Variation

Find the mean, median, and mode of each data set.

1. {3, 10, 2, 8, 7, 5, 2, 5}

- a. The mean is the sum of the values in a set divided by the number of values. Find the mean of the set. _____
- b. The median is the middle value when the set is ordered numerically. Find the median of the set. _____
- c. The mode is the value or values that occur most often. Find the mode of the set. _____

2. { 11, 15, 4, 10, 7, 5, 11, 9 }

- a. Mean _____
- b. Median _____
- c. Mode _____

Find the expected values.

3. The probability distribution for the number of free throws that Larry makes in a game is given below. Find the expected number of free throws that Larry makes in a game. _____

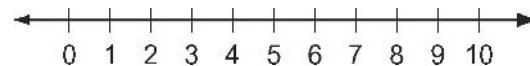
Number of Free Throws Made, n	5	6	7	8
Probability	0.21	0.58	0.14	0.07

4. The probability distribution for the number of pieces of junk mail May receives is given below. Find the expected number of junk mail letters May receives in a day. _____

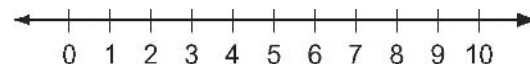
Number of Junk Mail Letters, n	1	2	3	4
Probability	0.15	0.70	0.10	0.05

Make a box-and-whisker plot of the data. Find the interquartile range.

5. { 3, 7, 5, 3, 5, 9, 2, 7 }



6. { 1, 9, 9, 2, 2, 5, 5, 10 }



Find the variance and standard deviation.

7. { 1, 2, 8, 11, 7, 10, 7, 2 }

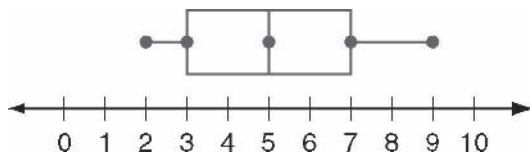
8. { 10, 14, 8, 12, 9, 13 }

Answers for Unit 1

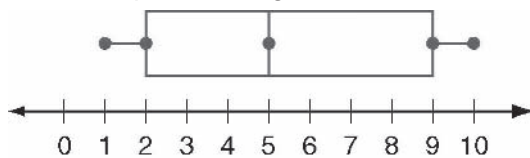
1-1 MEASURES OF CENTRAL TENDENCY AND VARIATION

Practice A

- a. 5.25
b. 5
c. 2, 5
- a. 9
b. 9.5
c. 11
- 6.07
- 2.05
- Interquartile range is 4.



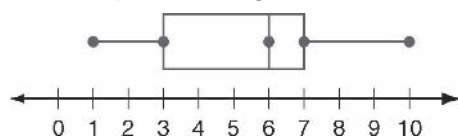
- Interquartile range is 7.



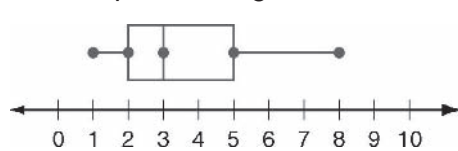
- 13; 3.6
- 4.7; 2.2

Practice B

- a. 10.5
b. 11.5
c. None
- a. 8.6
b. 9
c. 9
- Interquartile range is 4.



- Interquartile range is 3.

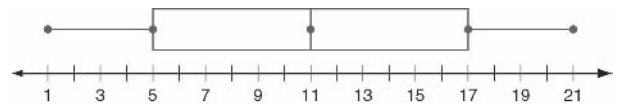


- 6.8; 2.6
- 278; 16.7

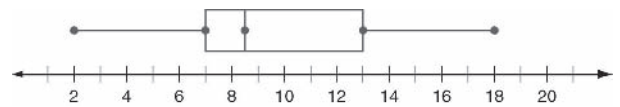
- 9.3; 3.0
- 8.4; 2.9
- 7.01
- a. 45.1
b. 13.1
c. 88
d. The mean increases from ≈ 41.2 to ≈ 45.1 , and the standard deviation increases from ≈ 2.1 to ≈ 13.1 .

Practice C

- Possible answer: {4, 4, 8, 9, 10}
- Possible answer: {3, 6, 12, 14, 15}
- Interquartile range is 12.



- Interquartile range is 6.



- 35.1; 5.9
- 176.2; 13.3
- 18.6; 4.3
- 37.6; 6.1
- 2.28

- a. 17.7
b. 14.3
c. 65
d. The mean increases from ≈ 13.4 to ≈ 17.7 , and the standard deviation increases from ≈ 1.2 to ≈ 14.3 .

Review for Mastery

- 5
- Expected value = $x_1p_1 + x_2p_2 + x_3p_3 + x_4p_4 + x_5p_5$
- ≈ 6.9
- 3
- 1, -2, 2, 0, -2, 2, 0, 1
- 1, 4, 4, 0, 4, 4, 0, 1
- 2.25
- 1.5

Challenge

- Greater than; the sum is the same for both, and in the first case you divide by 94 rather than 100.