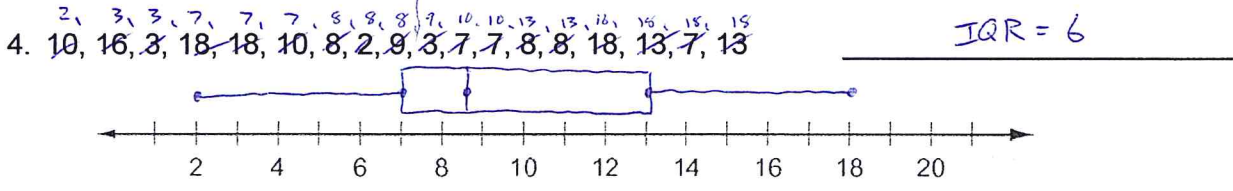
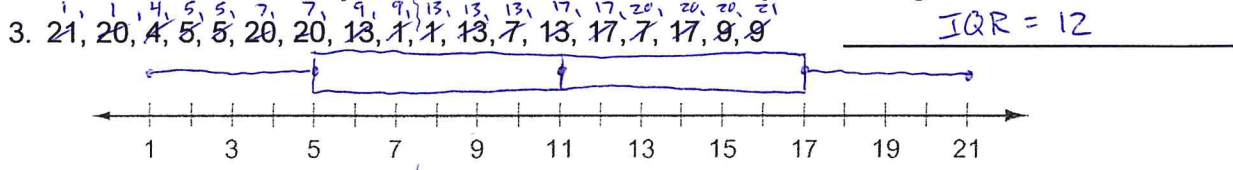


LESSON 11-5 **Practice C**
Measures of Central Tendency and Variation

Write a data set to satisfy the given conditions.

1. Median = 8; mode = 4
4, 4, 8, 10, 12
2. Mean = 10; median = 12
5, 12, 13

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



Find the variance and standard deviation.

5. { 13, 7, 16, 22, 26, 11, 12, 19, 9 }
st. dev = 5.9 variance = 35.1
6. { 4, 7, 28, 6, 1, 1, 10, 15, 48, 3, 4, 5 }
st. dev = 13.3 variance = 176.1
7. { 15, 5, 12, 8, 19, 11, 7, 10, 9, 13, 17, 5 }
st. dev = 4.3 variance = 18.6
8. { 37, 29, 33, 30, 23, 28, 20, 35, 19, 21 }
st. dev = 6.1 variance = 37.6

Solve.

9. The probability distribution for the number of children per family in a particular suburb of Chicago is shown below. Find the expected number of children per family in this region.

Number of Children, n	1	2	3	4
Probability	0.27	0.28	0.35	0.10

10. A chemist weighs samples obtained from a production run. The weights of the samples are 13 g, 14 g, 65 g, 11 g, 15 g, 14 g, 14 g, 12 g, 13 g, 15 g, 14 g, and 12 g.
- a. Find the mean of the data. 17.67
- b. Find the standard deviation. 14.32
- c. Identify any outliers. 65g
- d. Describe how any outlier affects the mean and the standard deviation.
increased mean and st. dev

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Mr. Ward Answer Key

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9. st. dev = 0.894
variance = 0.799

10. st. dev = 4.243
variance = 18

11. st. dev = 11.95
variance = 142.8

12. mean = 46.7
st. dev = 8.4
 $3(8.4) = 25.2 \rightarrow 46.7 - 25.2 = 21.5$
Outlier = 19
outlier decreased the mean and caused the st dev to be very high

20. st. dev = 0.4
variance = 0.16

21. st. dev = 18.54
variance = 343.7

22. st. dev = 14.32
variance = 205.1

23. mean = 22.8
st. dev = 11.5
 $3(11.5) = 34.5 \rightarrow 22.8 + 34.5 = 57.3$
Outlier = 58
outlier increased the mean and caused the st dev to be very high