11.2 Start Thinking

Using a printout from your teacher, obtain a list of your percentages on tests in your math class for the current school year. Arrange the percentages from least to greatest.

Find the lowest percentage, the highest percentage, and the median of the test scores. Plot all three on a number line. Find the median of the lower half of your test scores (the numbers from the lowest score to the original median) and the median of the upper half of your test scores (the numbers from the original median to the highest score). Plot these data points on the number line. Are all the numbers on the number line equidistant? Why or why not?

11.2 Warm Up

Find the median of the data.

1. 3, 5, 9, 10, 15

2. −1, 4, 3, 6, 1, 5, 5, 6

3. 15, 19, 19, 26, 16, 23, 22, 22

4. −3, 1, 4, −3, 0, −2, 1, 1, 1, −2, 5

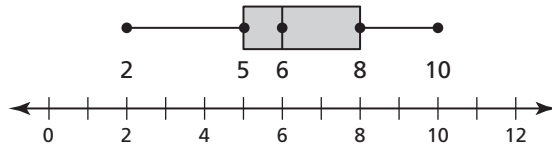5. 215, 4, 296, 29, 6, 215, 219, 281

6. 2, 2, 4, 3, 4, 2

11.2 Cumulative Review Warm Up

Complete the square for the expression. Then factor the trinomial.

1. $x^2 + 11x$

2. $x^2 - 15x$

3. $x^2 - 6x$

4. $x^2 - 13x$

5. $x^2 + 5x$

6. $x^2 + 4x$

Name_____ Date_____

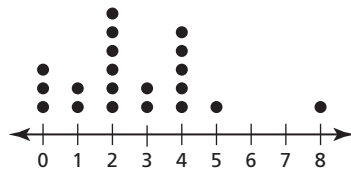## 11.2 Practice A

In Exercises 1–6, use the box-and-whisker plot to find the given measure.

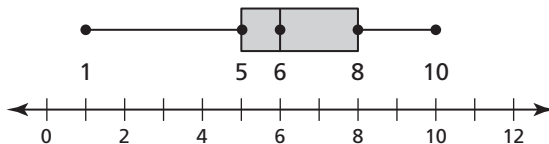**1.** least value   **2.** median   **3.** greatest value

4. third quartile   **5.** range   **6.** first quartile

In Exercises 7 and 8, make a box-and-whisker plot that represents the data.

7. Hours of exercise per week: 0, 7, 2, 5, 12, 2, 0, 9

8. Numbers of cars in a parking lot: 12, 35, 20, 17, 24, 30, 28, 16

9. The dot plot represents the numbers of customers at the tables in a restaurant. Make a box-and-whisker plot that represents the data.
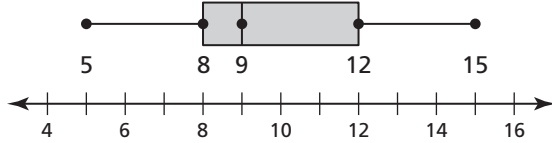

10. The box-and-whisker plot represents a data set. Determine whether each statement is true. Explain your reasoning.

    a. The data set contains the value 11.

    b. The distribution is skewed left.

Name _____ Date _____

11.2 Practice B

In Exercises 1–6, use the box-and-whisker plot to find the given measure.

1. least value

2. range

3. first quartile

4. third quartile

5. greatest value

6. median

In Exercises 7 and 8, make a box-and-whisker plot that represents the data.

7. Numbers of chairs in a classroom: 30, 27, 32, 25, 12, 22, 20, 29, 35, 35, 28

8. Temperatures (in degrees Fahrenheit): −18, 0, 7, −8, −12, 15, 21, 0, 1, −3

9. The stem-and-leaf plot represents the heights (in inches) of pineapple plants in a garden. Make a box-and-whisker plot that represents the data.

Stem	Leaf
0	4 7 7 8 9
1	0 0 0 2 5 6 9
2	0 1

Key: 1 | 0 = 10 inches

10. The box-and-whisker plot represents a data set. Determine whether each statement is true. Explain your reasoning.
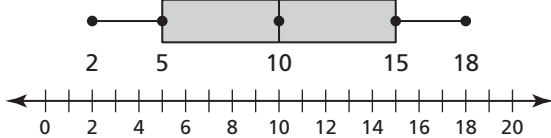
a. The median of the data is 15.

b. The distribution is symmetric.

11.2 **Enrichment and Extension**

Too Much Screen Time?

Collect data from your classmates and use your knowledge of central tendencies to analyze and interpret the data.

1. Record the approximate amount of time (in hours) each class member either watches TV or uses his or her smart phone or tablet per day.

2. List the results in order from least to greatest.

3. Can you tell from this list what the average may be and why?

4. Make a stem-and-leaf plot using the data.

5. Find the mean, median, mode, and range of the data.

6. Use the stem-and-leaf plot to find the first and third quartiles.

7. Construct a box-and-whisker plot with the information.

8. Find and interpret the range of this data.

9. Describe the distribution of the data.

10. Is the data more spread out in Q1 or Q2? Explain.

Name _____ Date _____

11.2 Puzzle Time

What Did The Tired Dishcloth Say To The Counter?

Write the letter of each answer in the box containing the exercise number.

Identify the least value, Q1, Q2, Q3, and greatest value of the data set.

1. Time spent reading (in hours): 1, 2, 3, 4, 1, 3, 5, 4

2. Lengths of rabbits (in inches): 19, 15, 23, 22, 20, 19, 26, 24

3. Temperature changes (°F): −10, 8, −3, 4, −7, 5, −6, 8, −6, 5, −2

4. Sneaker prices (in dollars): 104, 75, 125, 90, 104, 320, 170, 134

Use the data set to complete the exercises.

   10, 13, 14, 15, 12, 14, 16, 15

5. Find the first quartile.

   O. 12.5   **P.** 15   **Q.** 16

6. Find the second quartile.

   H. 12.5   **I.** 14   **J.** 16

7. Find the third quartile.

   O. 12.5   **P.** 15   **Q.** 14

8. Find the range of the data.

   V. 3.5   **W.** 6   **X.** 26

9. Describe the distribution of the data.

   U. skewed left   **V.** symmetric   **W.** skewed right

10. Find the interquartile range.

   D. 6   **E.** 2.5   **F.** 15

Answers

T. least value: 15; Q1: 19; Q2: 21; Q3: 23.5; greatest value: 26

D. least value: 75; Q1: 97; Q2: 114.5; Q3: 152; greatest value: 320

I. least value: 1; Q1: 1.5; Q2: 3; Q3: 4; greatest value: 5

M. least value: −10; Q1: −6; Q2: −2; Q3: 5; greatest value: 8

6	,	3		8	1	7	10	4		5	9	2