2-7 Median, Mode, and Range - Practice and Problem Solving

Find the median, mode, and range for each set of data.

7. Minutes spent on homework: 18, 20, 22, 11, 19, 18, 18

First, order the data: 11, 18, 18, 18, 19, 20, 22
median: 18
mode: 18
range: 22 − 11 = 11

9. Height of trees in feet: 23, 27, 24, 26, 26, 24, 26, 24

First, order the data: 23, 24, 24, 24, 26, 26, 26, 27
median: $\dfrac{24+26}{2} = \dfrac{50}{2}$ or 25
mode: 24 and 26
range: 27 − 23 = 4

ANALYZE DISPLAYS Find the mean, median, mode, and range of the data represented.

11.

Test Grades	
Stem	Leaf
6	5 7
7	0 2 2 5 7
8	0 2 2 5 5 5 5 7 8
9	0 0 2 5 5 7
10	0 0 *8| 2 = 82%*

mean: (65 + 67 + 70 + 72 + 72 + 75 + 77 + 80 + 82 + 82 + 85 + 85 + 85 + 85 + 87 + 88 + 90 + 90 + 92 + 95 + 95 + 97 + 100 + 100) ÷ 24
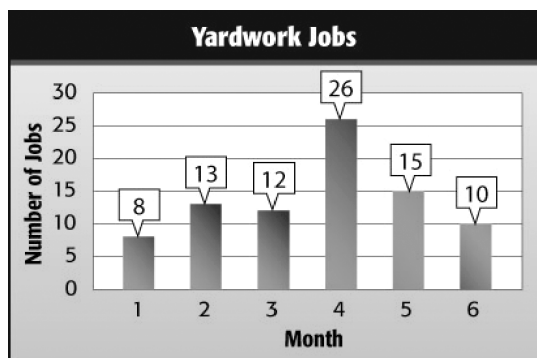
$= \dfrac{2016}{24}$ or 84%

median: 85%
mode: 85%
range: 100 − 65 = 35%

ANALYZE DISPLAYS Find the mean, median, mode, and range of the data represented.

13.

First, order the data: 8, 10, 12, 13, 15, 26

mean: $\dfrac{8+10+12+13+15+26}{6} = \dfrac{84}{6}$ or 14 jobs

median: $\dfrac{12+13}{2} = \dfrac{25}{2}$ or 12.5 jobs

The data has no identical numbers, so there is no mode.

range: 26 – 8 = 18 jobs

15. ANALYZE TABLES A Louisville newspaper claims that during seven days, the high temperature in Lexington was typically 6° warmer than the high temperature in Louisville. What measure was used to make this claim? Justify your answer.

Daily High Temperatures (°F)	
Louisville	Lexington
75 50 80	80 73 75
72	74
70 84 70	71 76 76

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

Louisville:

First, order the data: 50, 70, 70, 72, 75, 80, 84

mean: $\dfrac{50+70+70+72+75+80+84}{7}$

$= \dfrac{501}{7} \approx 72°F$

median: 72°F

mode: 70°F

range: 84 – 50 = 34°F

Lexington:

First, order the data: 71, 73, 74, 75, 76, 76, 80

mean: $\dfrac{71+73+74+75+76+76+80}{7}$

$= \dfrac{525}{7}$ or 75°F

median: 75°F

mode: 76°F

range: 80 – 71 = 9°F

The modes have a difference of 6°. Since 76° – 70° = 6°, the mode was used to make this claim.

17. **COLLECT THE DATA** Record the number of students in your math class each day for one week. Then describe the data using the mean, median, and mode.

    See students' work.

    REASONING One evening at a local pizzeria, the following number of toppings were ordered on each large pizza.
        3, 0, 1, 1, 2, 5, 4, 3, 1, 0, 0, 1, 1, 2, 2, 3, 6, 4, 3, 2, 0, 2, 1, 3
    Determine whether each statement is *true* or *false*. Explain your reasoning.

19. The most number of people ordered a pizza with 1 topping.

    Order the data: 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3, 4, 4, 5, 6
    The mode of the data set is 1, so this statement is true.

21. **WRITING IN MATH** In the data set {3, 7, 4, 2, 31, 5, 4}, which measure: mean, median, or mode, best describes the set of data? Explain your reasoning.

    Sampel answer: The median or mode best represents the data. The mean, 8, is greater than all but one of the data values.

23. **SHORT RESPONSE** At the Town Diner, Aiden was deciding on the turkey dinner for $9, the cheeseburger meal for $6, the chicken salad for $5, or the spaghetti with meatballs for $8. What was the range of prices in dollars for the meals he was considering?
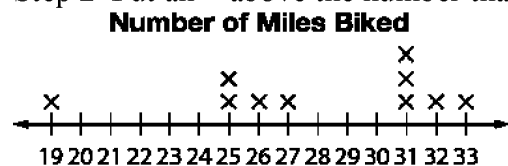
    $9 – $5 = $4

25. Display the following set of data in a line plot.
    Number of miles biked: 27, 31, 25, 19, 31, 32, 25, 26, 33, 31

    Step 1 Draw a number line. The data includes numbers from 19 to 33. So a scale from 19 to 33 is reasonable.
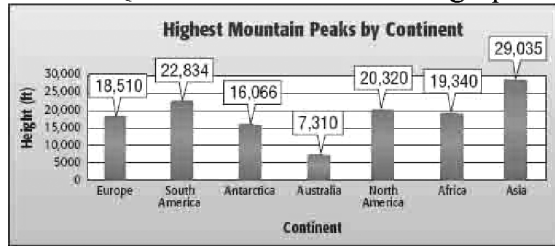   Step 2 Put an × above the number that represents each number of miles biked. Add a title.

    Number of Miles Biked

    Evaluate each expression if $x = 3$, $y = 12$, and $z = 8$.

27. $2x + z^2$

    $$2x + z^2 = 2 \times 3 + 8^2$$
    $$= 2 \times 3 + 64$$
    $$= 6 + 64$$
    $$= 70$$

PREREQUISITE SKILL Use the graph.

Highest Mountain Peaks by Continent

29. Which continent has the highest mountain peak?

Asia

31. About how much taller is the highest peak in Asia than the highest peak in Africa?

about 10,000 ft