

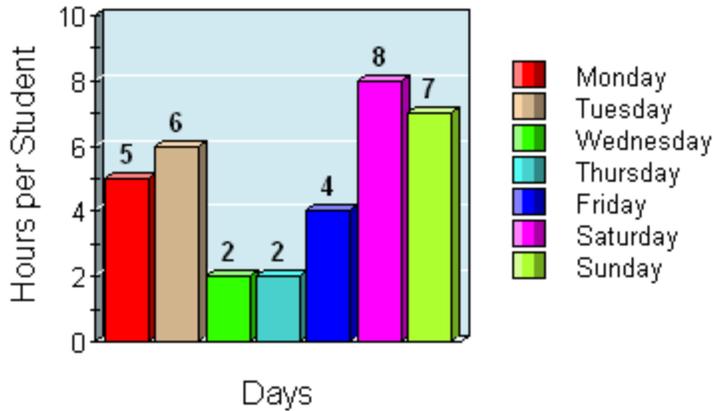
Name: \_\_\_\_\_

### Topic 18 Review

- I can construct, read, and interpret graphic aids.
- I can determine the probability of events.

Some students were surveyed about their weekly television viewing. Use the graph of the results to answer questions 1 - 4.

### Time Spent Watching T.V. in One Week



1. What was the total amount of time spent watching T.V. for that week?

- A. 30 hours
- B. 32 hours
- C. 34 hours

2. What is the mean (average) number of hours of television watched per day?

- A. about 3 hours
- B. about 5 hours
- C. about 6 hours

3. What prediction could NOT be made using this graph?

- A. More students watch T.V. on Wednesday than Thursday.
- B. About  $\frac{1}{4}$  of the time students spend watching is on Saturday.
- C. A class of 25 students would spend about 50 hours watching T.V. on Thursday.

4. If the students watched a total of 40 hours of television the following week, how many hours of T.V. would they likely watch Wednesday? Show your work or explain your thinking.

**Mean:** The mean is the average of a set of numbers. It is easy to calculate: add up all the numbers and divide by how many numbers there are.

**Example 1: What is the Mean of these numbers?**

6, 11, 7

- Add the numbers:  $6 + 11 + 7 = 24$
- Divide by *how many* numbers (there are 3 numbers):  $24 / 3 = 8$

**The Mean is 8**

**Median:** The median is the “middle” number in a sorted list. To find the Median, place the numbers in **value order** and find the **middle number**, BUT when there are an even amount of numbers things are slightly different. In that case we need to find the **middle pair** of numbers, and then find the value that would be half way between them. This is easily done by adding them together and dividing by two.

**EXAMPLES: Finding the median of a set of scores.**

Order the scores from least to greatest.

Locate the middle score.

3, 4, 5, 5, 5, 6, 7, 8, 8, 8, 9

median = 6

If the number of scores is even, the median is the average of the two middle scores.

3, 4, 5, 5, 5, 6, 7, 8, 8, 8

$$5 + 6 = 11$$

$$11 \div 2 = 5.5$$

median = 5.5

**Mode:** To find the mode, or modal value, first put the numbers in order, then count how many of each number.

**Example:**

3, 7, 5, 13, 20, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29

**In order** these numbers are:

3, 5, 7, 12, 13, 14, 20, 23, 23, 23, 23, 29, 39, 40, 56

This makes it easy to see which numbers appear **most often**.

**In this case the mode is 23.**

Use the following temperature chart to complete questions 5 through 7.

Day	Temperature
Sunday	81° F
Monday	84° F
Tuesday	76° F
Wednesday	72° F
Thursday	67° F
Friday	81° F
Saturday	86° F

5. What is the mean temperature of the week shown?

\_\_\_\_\_degrees Fahrenheit

6. What is the mode of the temperatures?

\_\_\_\_\_degrees Fahrenheit

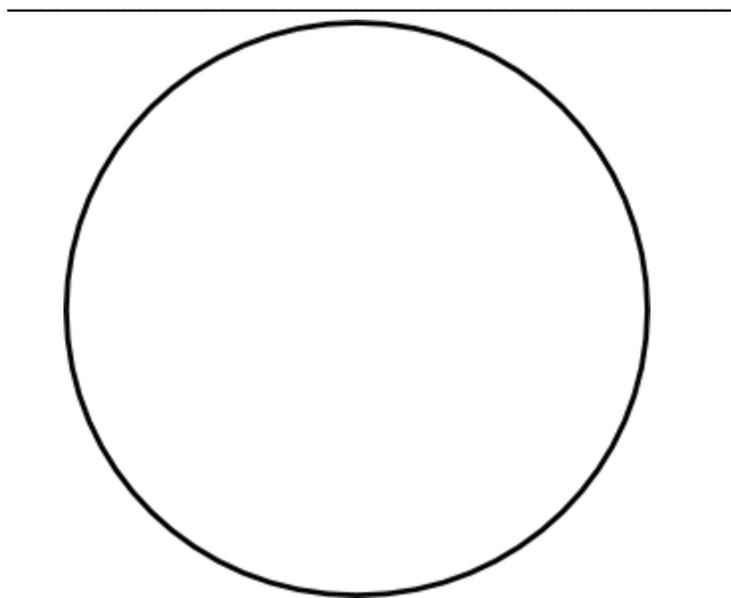
7. What is the median of the temperatures?

\_\_\_\_\_degrees Fahrenheit

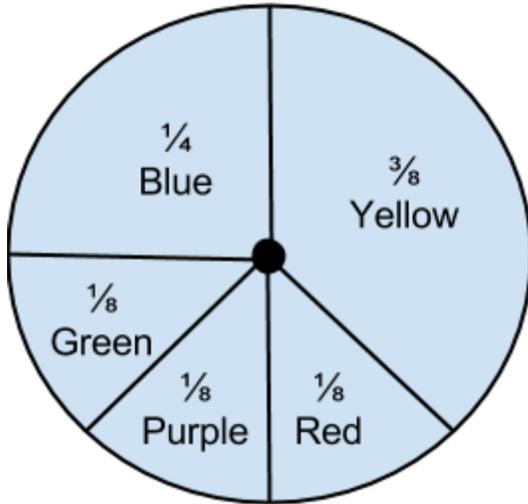
8. Construct a circle graph to display the data below. Add a title and label each sector.

**REMEMBER:** To properly set up your pie graph, you must express each outcome as a fraction of the total number of votes. (For example, if there were 24 total votes and 8 people chose one outcome, that outcome would be  $\frac{1}{3}$  of the total votes.) Then draw the fractional piece of the circle.

Sport	Soccer	Baseball	Football	Basketball
# of Votes	6	8	6	4



Use the spinner to help you answer questions 9 - 12.



9. An outcome of blue at least once in five spins is

- A. unlikely
- B. likely
- C. certain

10. In 24 spins, about how many times would you expect the outcome to be yellow?

- A. 16
- B. 9
- C. 4

11. If this spinner were used in a game, which section do you think should be worth more points: yellow or purple? Explain your thinking below:

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12. Suppose you were to spin this spinner 100 times. Predict how many times the outcome would be blue.

- A. 40
- B. 25
- C. 16

13. A spinner has the following sections:  $\frac{2}{3}$  purple,  $\frac{1}{4}$  pink, and  $\frac{5}{12}$  orange.

A. Which outcome is most likely? Why?

B. Which outcome is likely? Why?

14. A die is thrown once. What is the probability that the score is a factor of 6?

- A.  $\frac{1}{6}$
- B.  $\frac{3}{4}$
- C.  $\frac{2}{3}$
- D.  $\frac{1}{2}$