Applying Statistics
Worksheet 3

Choice *E*, in multiple-choice questions, is always: *I request help from the teacher*.

You may mark E in addition to one other choice if you think that you have the right answer to the question but you do not feel that you have a complete understanding of the problem.

Your teacher will decide whether to use the two-point or four-point scoring rubric for problems that use numbers, pictures, or words to justify/explain your answer(s). You may request help for these questions, too. Write the word "teacher" by your answer(s).

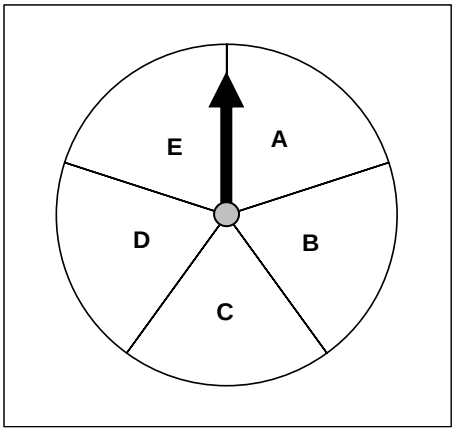
1. This table shows the depth of the water in Burns Reservoir for five days.

    a. Calculate the mean of the water depth levels.
    b. Explain what the mean indicates about these water depths.

Burns Reservoir **Water Levels**	
Day	**Depth (in feet)**
Monday	87
Wednesday	87
Tuesday	89
Friday	90
Thursday	92

2. Pythagleo will spin the spinner shown 100 times. He thinks that if the spinner lands on A or C that the missing students from Etna High School are more likely to *appear* or *come* back. Which prediction is reasonable for the number of times the spinner will land on either A or C?

    A. 4
    B. 20
    C. 40
    D. 80
    E. Teacher



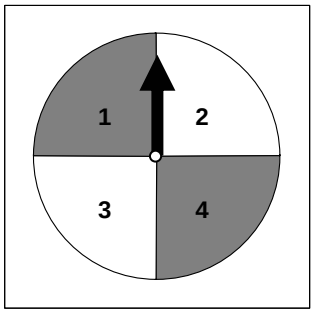
3. Carter is playing a game with a numbered octahedron and a coin. The octahedron is numbered from 1 to 8 and the coin has a heads side and a tails side. On each turn, the numbered cube is rolled and the coin is flipped. How many outcomes are possible?

    A. 2 B. 10 C. 12 D. 16 E. Teacher

4. Chris and Carter weighed each of the numbered wooden balls used in the coded message that was supposed to help them learn more about the disappearance of the Etna High students. They thought that there might be an additional clue in the results. The mode of the weights of 12 wooden balls was 7 ounces. Which statement explains what the mode represents?

    a. The difference between the lightest and the heaviest wooden ball was 7 ounces.
    b. The most common weight of the wooden balls was 7 ounces.
    c. The average weight of the wooden balls was 7 ounces.
    d. The lower quartile of the weights was 7 ounces.
    e. Teacher

5. Pythagleo is spinning the spinner shown. He predicts that the chance of the arrow landing on any number on the spinner is $\frac{1}{4}$. Which activity would best allow Pythagleo to test his prediction?



    A. Spin the spinner 4 times and see if it lands on the 4.
    B. Spin the spinner 200 times and see how close to 50 times the arrow lands on each number.
    C. Spin the spinner eight times and check to see whether the arrow lands on each number twice.
    D. Have a friend or classmate spin the spinner 10 times with his/her eyes closed and see how many times it lands on the 4.
    E. Teacher

6. Carter has a dodecahedron with a different color on each of its twelve faces. The faces are colored: black, blue, white, yellow, pink, purple, orange, brown, gold, gray, turquoise, and green. If Carter rolls the dodecahedron once onto a table top, what is the probability that it will stop rolling with a blue or yellow face down (touching the table)?

    A. $\frac{1}{12}$ B. $\frac{1}{6}$ C. $\frac{2}{10}$ D. $\frac{1}{1}$ E. Teacher

7. Fifty senior citizens from Enigma, Ohio, were surveyed to find out their willingness to share information about the disappearances at Etna High in 1966. A rating of 10 meant "very willing to share information." A score of 1 meant "unwilling to share anything." Ten people's responses are shown in the table. What is the range?

Willingness to Share Information	
Person A	1
Person B	3
Person C	2
Person D	2
Person E	2
Person F	1
Person G	4
Person H	3
Person I	3
Person J	2

    A. 1
    B. 2
    C. 3
    D. 4
    E. Teacher

8. The parents' organization at the elementary school in Enigma, Ohio, sold raffle tickets to raise money to buy playground equipment. To help promote the raffle and raise interest, four prizes were given: $200, $100, $75 and $25. Each ticket cost $7.00 and 2000 tickets were sold.

    a. Write a fraction (in lowest terms) that expresses the ratio between the total amount of money given away in prizes and the total money raised by the ticket sales.
    b. What percent (rounded to the nearest whole percent) of the money raised was paid out in prizes?
    c. Use numbers, pictures, or words to explain your answers.

9. Chris is on the baseball team at Western High School. His batting averages for the last seven games were .478, .267, .188, .193, .196, .245, and .358. What is the mean for his batting averages?

    A. 275 B. .275 C. 1.925 D. .245 E. Teacher

10. The stem-and-leaf plot represents the Carter's Social Studies quiz scores for the first half of the school year.

    a. What is the mode of the data set?
    b. What is the median?
    c. What is the range?
    d. Use numbers, pictures, or words to support your answers.

Carter's Quiz Scores

7	4 5 6 6 8
8	3 7 9
9	1 4 4 5 6 6 7 7 8 9 9
10	0 0 0 0 0

Key: 10|0 = 100%

11. Pythagleo was paid for ten weeks of work at Etna High School. His mean (average) earnings were $275 per week for the first nine weeks. In the last week (week ten), he earned $515 because he worked so much overtime. How was Pythagleo's mean weekly earnings for the ten weeks affected by the overtime of the last week?

    A. the mean did not change
    B. increased by $24
    C. increased by $299
    D. increased by $515
    E. Teacher

12. Chris has one green, one white, one red, one yellow and one blue tee shirt. She also has one pair of black jeans, one pair of dark blue jeans, and one pair of light blue jeans. Chris was so tired from trying to solve the mystery of Etna High School that she chose a tee shirt and a pair of jeans from her closet without even looking at what she is doing. What is the probability that Chris chose a yellow tee shirt and a pair of black jeans? Use number, pictures or words to support your answer.