How Do We Know That Clocks Are Hungry?

Cross out the letters above each correct answer. When you finish, write the remaining letters in the spaces at the bottom of the page.

1. A die in the shape of an octahedron has sides numbered from 1 to 8.
   a. Each time you roll the die, how many equally likely outcomes are there?
   b. If you roll the die once, what is the probability of getting a 3?
   c. If you roll once, what is the probability of getting a number less than 4?
   d. If you roll the die 800 times, about how many times would you expect to get a 2?
   e. If you roll the die 160 times, about how many times would you expect to get a 7?

2. Find each probability if you spin the spinner once.
   a. P(black)
   b. P(white)
   c. P(striped)
   d. P(black or white)
   e. P(not black)
   f. P(black or white or striped)
   g. P(yellow)

3. If you spin the spinner 100 times, about how many times would you expect it to land on:
   a. white?
   b. black?
   c. striped?

4. A dart is thrown at the target shown. If the dart hits the target randomly, what is the probability that it will:
   a. Hit the bullseye (one of the shaded squares in the middle)?
   b. Hit one of the shaded squares around the edge?
   c. Hit any shaded square?
   d. Hit any unshaded square?

5. If a dart hits the target randomly 270 times, about how many bullseyes would you expect?
How Do We Know That Clocks Are Hungry?

Cross out the letters above each correct answer. When you finish, write the remaining letters in the spaces at the bottom of the page.

1. A die in the shape of an octahedron has sides numbered from 1 to 8.
   a. Each time you roll the die, how many equally likely outcomes are there?
   b. If you roll the die once, what is the probability of getting a 3?
   c. If you roll once, what is the probability of getting a number greater than 6?
   d. If you roll the die 800 times, about how many times would you expect to get a 7?
   e. If you roll the die 240 times, about how many times would you expect to get a 4?

2. Find each probability if you spin the spinner once.
   a. P(black)
   b. P(white)
   c. P(striped)
   d. P(black or white)
   e. P(not white)
   f. P(black or white or striped)
   g. P(green)

3. If you spin the spinner 100 times, about how many times would you expect it to land on:
   a. black?
   b. white?
   c. striped?

4. A dart is thrown at the target shown. If the dart hits the target randomly, what is the probability that it will:
   a. Hit the bullseye (one of the shaded squares in the middle)?
   b. Hit one of the shaded squares around the edge?
   c. Hit any shaded square?
   d. Hit any unshaded square?

5. If a dart hits the target randomly 180 times, about how many bullseyes would you expect?
Why Did Fonzi Fletchkickler Take Off His Shoes in the Post Office?

For each exercise, write an organized list of all possibilities. Then answer the question and circle your answer in the answer column. When you finish, write the letters of the answers you circled. Arrange them in order from the letter of the smallest correct answer to the letter of the largest correct answer.

1. Mr. and Ms. Zogg are trying to decide on a name for their new baby boy. For a first name, they like either John or Clark. For a middle name, they like either Kent or Adam. How many different choices do they have?

2. Derek has trophies in soccer, basketball, and tennis. He lines them up on a shelf in his room. How many different arrangements are possible?

3. Gloria Trench has red, green, and purple sweatshirts. She has black, white, and gray sweatpants. How many different outfits are possible?

4. Pizzazz Pizza offers five different toppings for their pizza: bacon, pepperoni, sausage, mushroom, and hamburger. If you order a pizza with two different toppings, how many choices do you have?

5. How many different 4-letter license plates can be made using the letters T, O, Y, and S? All four letters must be used on each license plate.

6. Steve, Matt, Kim, and Joan play trumpet in the school band. Drew and Carlos play trombone. For a special performance, the director must choose two trumpet players and one trombone player. How many different choices does the director have?

7. A dartboard has three rings worth 5 points, 3 points, and 1 point. If you throw three darts and they all hit the board, how many different scores are possible? (Each score is the sum of the three dart scores.)
Why Did Fonzi Fletchkicker Take Off His Shoes in the Post Office?

For each exercise, write an organized list of all possibilities. Then answer the question and circle your answer in the answer column. When you finish, write the letters of the answers you circled. Arrange them in order from the letter of the smallest correct answer to the letter of the largest correct answer.

1. Mr. and Ms. Kogg are trying to decide on a name for their new baby girl. For a first name, they like either Karen or Melissa. For a middle name, they like either Anne or Sara. How many different choices do they have?

2. A ghost, a vampire, and a witch lined up for their Halloween portrait. In how many different ways could they line up?

3. Twinkle Starfire has orange, yellow, and pink sweatshirts. She has black, white, and gray sweatpants. How many different outfits are possible?

4. McScream's Restaurant has five different flavors of ice cream: vanilla, chocolate, strawberry, peach, and mint. If you order a banana split with two different flavors of ice cream, how many choices do you have?

5. How many different 4-letter license plates can be made using the letters J, O, K, and E? All four letters must be used on each license plate.

6. Tom, Devon, Pam, and Erin play clarinet in the school band. Ryan and Laura play saxophone. For a special performance, the director must choose two clarinet players and one saxophone player. How many different choices does the director have?

7. A dartboard has three rings worth 7 points, 4 points, and 1 point. If you throw three darts and they all hit the board, how many different scores are possible? (Each score is the sum of the three dart scores.)