Lesson #18 · Topic 2B · Practice

Name ______________________

1. In a New York Times article, an analyst stated that the probability of a legal dispute ending in a settlement, rather than going to trial, is around 0.90. Interpret this probability.

2. Paul flipped a fair coin 10 times.

   a. How many of the coin flips would you expect to land on “Tails”? Is this result guaranteed? Explain.

   b. Paul recorded an “H” if the coin landed on heads and a “T” if the coin landed on tails. His results are shown.

   THTHTTTTTH

   What proportion of Paul’s flips resulted in a Tail? Is this result surprising? Explain.

   c. How do you think the proportion of tails would change if Paul flipped the coin 200 times? Explain.

3. Give an example of an event that has each of the following probabilities.

   a. 0.25

   b. 0

   c. $\frac{1}{3}$

   d. 1

4. Carly's teacher gives each student a playing card at the beginning of class to determine what table they will sit at for the day (all students with a "3" sit at one table, all students with a "queen" sit at one table, etc.). Carly ended up at a table with her best friend on Monday and Tuesday. On Wednesday, Carly thinks there is no way she will be at the same table as her friend AGAIN. Explain why Carly's thinking is flawed.

5. Francine's favorite Spotify playlist has 35 songs on it, which are sorted by date added. She listens to the playlist on shuffle mode. At one point Francine noticed that songs 7, 8, and 9 on the playlist played back-to-back. She is convinced that the shuffle mode isn't actually random. Do you agree? Explain.

6. A recruiting firm, Worker Wonders, helps companies find qualified candidates to fill vacant positions. The firm's website states that the probability that they find a qualified candidate in three days or fewer is 0.80. Which of the following provides the best explanation for how Worker Wonders could have estimated this probability?

A) Of all the companies Worker Wonders has helped in the past, it was able to find a qualified candidate in three days or fewer for 80% of their vacant positions.

B) The average success rate of finding a candidate in this time frame for all recruitment firms nationally is 80%.

C) The average success rate of finding a candidate in this time frame for all recruitment firms in the state is 80%.

D) By estimating that there is a 20% chance that the firm's database will crash, making them unable to find a candidate in three days or fewer.

7. Which of the following events is least likely to occur?

A) Rolling a “6” on exactly five out of ten rolls of a fair six-sided die.

B) Rolling a “6” on exactly 50 out of 100 rolls of a fair six-sided die.

C) Rolling an even number on exactly five out of ten rolls of a fair six-sided die.

D) Rolling an even number on exactly 50 out of 100 rolls of a fair six-sided die.