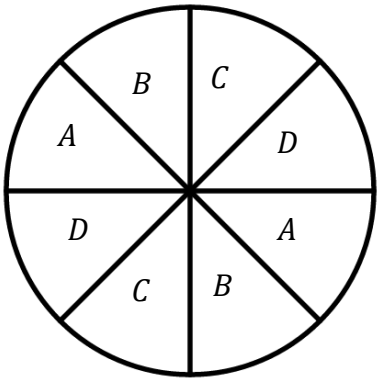
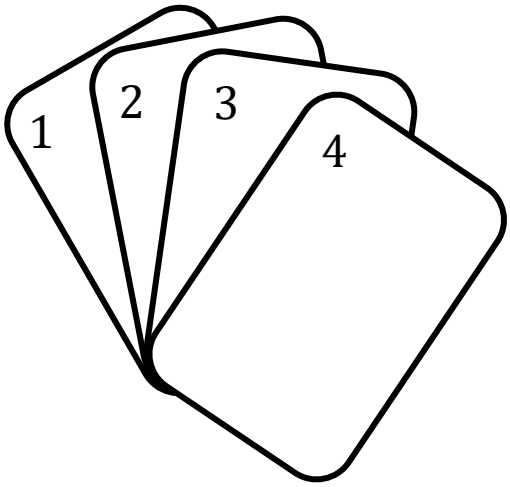
Name _____ Date_____

Probability and Independence Independent Practice

1. The spinner at the right is spun once and a card is drawn from a deck of four cards.





Part A: Determine if the two events are independent. Justify your answer.

Part B: Determine $P(3\ and\ A)$.

Part C: Determine $P(5\ and\ C)$.

Part D: Determine $P(4)\ and\ P(B\ or\ C)$.

Part E: Determine $P(1\ and\ not\ D)$.

2. A jar contains 16 marbles: six black, four yellow, four blue and two purple. A marble is drawn and then replaced back into the jar.

Part A: Suppose that event A is the first draw and event B is the second draw. Determine if A and B are dependent or independent events, and make a case for the opposite; so if they are dependent, explain how to make them independent, and vice versa.

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Part B: Determine $P(black\ and\ yellow)$.

Part C: Determine $(blue\ and\ purple)$.

3. A pet store has six puppies, nine kittens, four gerbils, and seven parakeets. If the option to choose an animal is independent from each other, then determine the following probabilities of picking the animal in question.

   Part A: Determine $P(gerbil)$.

   Part B: Determine $P(kitten)$.

   Part C: Determine $P(gerbil\ and\ kitten)$.

   Part D: Determine $P(parakeet\ and\ puppy)$.

4. A single six – sided die is rolled. What is the probability of rolling a number that is an odd number less than four?

5. A spinner has five equal sectors colored red, yellow, green, blue, orange. What is the probability of landing on a yellow first and then on a blue sector after two consecutive spins?