Quiz 4.6: Basic Concepts of Probability

Multiple Choice: *Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.*

1. A result of a chance experiment is called:
   A. Event B. Outcome C. Probability D. Sample Space
2. What does it mean when outcomes are equally likely?
   A. The list of all the possible outcomes of an experiment
   B. Each outcome of an experiment occurs with equal probability
   C. An activity which can be repeated over and over again and which have well-defined results
   D. Any combination of outcomes
3. What is probability?
   A. A measure that is associated with how certain we are of outcomes of a particular experiment or activity
   B. The list of all the possible outcomes of an experiment
   C. Any combination of outcomes
   D. An activity which can be repeated over and over again and which have well-defined results
4. A pair of dice is rolled. If $I = \{$the two numbers whose sum is an even prime$\}$, what are the elements of I?
   A. $I = \{(1,1)\}$ B. $I = \{(2,2)\}$ C. $I = \{(1,1),(2,2)\}$ D. $I = \{(1,2),(3,5)\}$
5. A toss of a die and a coin is an example of:
   A. Chance Experiment B. Event C. Outcome D. Sample Space
6. What are the ways to represent a sample space?
   A. List the possible outcomes B. Create a tree diagram C. Create a Venn diagram D. List the events
7. What is the sample space of tossing a coin and a die?
   A. $\{H1, H2, H3, H4, H5, H6, T1, T2, T3, T4, T5, T6\}$ C. $\{HH, HT, TH, TT\}$
   B. $\{HHH, HHT, HTH, HTT, THH, THT, TTH, TTT\}$ D. $\{H, T, 1, 2, 3, 4, 5, 6\}$
8. A die and a coin are tossed. If $C =$ {an odd number and tails}, what are the elements of event C?
   A. $C = \{1T, 2T, 3T\}$ B. $C = \{1H, 3H, 5H\}$ C. $C = \{1H, 2H, 3H\}$ D. $C = \{1T, 3T, 5T\}$
9. Which of the following methods can be used to count the outcomes of an experiment?
   A. Systematic Listing B. Table C. Tree Diagram D. Venn Diagram
10. In how many ways can a family with two children have boys and girls using the Fundamental Counting Principle?
    A. 2 B. 3 C. 4 D. 5
11. In how many ways can muffin or toast bread with coffee, milk, or juice be chosen?
    A. 6 B. 8 C. 10 D. 12
12. Using the Fundamental Counting Principle, in how many ways can a die be rolled and a coin be tossed?
    A. 6 B. 7 C. 12 D. 18
13. In how many ways can 1 out of 4 blue flags, 1 out of 3 red flags, and 1 out of 2 green flags be arranged on a pole?
    A. 4 B. 8 C. 12 D. 24
14. Elias has a choice of a queen or king with a choice of hearts, diamonds, clubs, or spades. In how many ways can he choose a card?
    A. 4 B. 8 C. 12 D. 16
15. Bill has three pairs of pants, 5 shirts and 2 pairs of shoes. How many outfits can he make?
    A. 12 B. 15 C. 18 D. 30
16. Motorcycle license plates have 2 letters followed by 4 numbers. If the same letter CANNOT be repeated, how many can be made?
    A. 2,146,000 B. 3,276,000 C. 5,320,000 D. 6,760,000

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