

Department of Public Administration, University of Karachi

First Year Morning SBM- 332 Sport Business Statistics (Quiz)

Topic: Probability and Set Theory

Max Marks: 10

NOTE: This quiz covers fundamental concepts in probability and set theory, from sample spaces to random variables, aimed at Sport Business Statistics students. Please select the best answer for each question.

1. What is the probability of observing a head when a fair coin is tossed?

- A) 0.25
- B) 0.50
- C) 0.75
- D) 1.00

2. What is the sample space for tossing a fair six-sided die?

- A) {1, 2, 3, 4}
- B) {1, 2, 3, 4, 5}
- C) {1, 2, 3, 4, 5, 6}
- D) {1, 2, 3, 4, 5, 6, 7}

3. If a family has 3 children, what is the probability that all are boys?

- A. $1/8$
- B. $1/2$
- C. $3/8$
- D. $1/4$

4. Which of the following is an example of a random experiment?

- A) Determining the outcome of a coin toss
- B) Counting the number of students
- C) Choosing numbers from 1 to 10 in order
- D) Both A and C

5. In probability, what does the symbol U represent?

- A) Union
- B) Intersection
- C) Complement
- D) Difference

6. What is the complement of the event of getting an even number on a die?

- A) Getting 1, 3, or 5
- B) Getting 2, 4, or 6
- C) Getting numbers above 3
- D) None of the above

7. What is the probability of getting an odd number when rolling a six-sided die?

- A) 0.3
- B) 0.5
- C) 0.6
- D) 0.8

8. Which of the following is NOT an example of a discrete random variable?

- A) Number of marbles in a jar
- B) Distance traveled
- C) Number of students in a class
- D) Number of goals in a match

9. If you toss a coin three times, what is the probability of getting exactly two tails?

- A) $1/4$
- B) $3/8$
- C) $1/2$
- D) $5/8$

10. In set theory, the intersection of sets A and B represents:

- A) Elements in A but not in B
- B) Elements in B but not in A
- C) Elements in both A and B
- D) Elements in either A or B but not both

11. When selecting randomly from a jar of 25 green marbles, the probability of picking a white marble is:

- A) 1
- B) 0.5
- C) 0
- D) 0.75

12. What is the probability of getting a sum of 7 when rolling two dice?

- A) $1/6$
- B) $1/12$
- C) $1/36$
- D) $5/36$

13. In probability theory, the term 'cardinality' of a set refers to:

- A) The number of events
- B) The number of elements in the set
- C) The probability of the set
- D) The union of the set

14. For events A and B with $P(A) = 0.6$, $P(B) = 0.3$, and $P(A \cap B) = 0.1$, what is $P(A \cup B)$?

- A) 0.7
- B) 0.8
- C) 0.9
- D) 1.0

15. If a random variable Y represents years of schooling, then Y is:

- A) A discrete random variable
- B) A continuous random variable
- C) A fixed variable
- D) Not a random variable

16. Which of these is a property of probability?

- A. $0 \leq P(A) \leq 1$
- B. $P(A) < 0$
- C. $P(A) > 1$
- D. None