

CHAPTER 5: PROBABILITY

5. List the four steps for conducting a simulation:

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5.2 Probability Rules

1. In statistics, what is meant by an independent trial?
2. What is a sample space?
3. What is an event?
4. Explain why the probability of any event is a number between 0 and 1.
5. What is the sum of the probabilities of all possible outcomes?
6. Describe the probability that an event does not occur? What is it called?
7. When are two events considered disjoint? What is another term for disjoint?
8. What is the probability of two mutually exclusive events?

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9. What is meant by the union of two or more events? Illustrate on a Venn diagram.

10. State the addition rule for disjoint events. Illustrate on a Venn diagram.

11. State the general addition rule for unions of two events.

12. Explain the difference between the rules in 10 and 11.

13. Summarize the 5 Rules of Probability.
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14. What is meant by the intersection of two or more events? Illustrate on a Venn diagram.

15. Explain the difference between the union and the intersection of two or more events.

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5.3 Conditional Probability and Independence

1. What is meant by conditional probability?
2. When are two events considered independent? State the formula used to determine if two events are independent?
3. State the general multiplication rule for any two events.
4. What is the multiplication rule for independent events?
5. How is the general multiplication rule different than the multiplication rule for independent events?
6. Can mutually exclusive events be independent?
7. What is the opposite of at least one?
8. State the formula for finding conditional probability.
9. Explain how to set up a tree diagram.
10. What is meant by joint probability?