

## Chapter 6: Probability and Simulation



### Key Vocabulary:

- trial
- random
- probability
- independence
- random phenomenon
- sample space
- $S = \{H, T\}$
- tree diagram
- replacement
- event
- $P(A)$
- Complement  $A^C$
- disjoint
- Venn Diagram
- union (or)
- intersection (and)
- trial
- simulation
- joint event
- joint probability
- conditional probability

### Calculator Skills:



- randInt(
- SortA
- Sum
- 1-Var Stats

### 6.1 Simulation (pp.392-405)

1. What is *simulation*?

2. List the five steps for conducting a *simulation*:

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3. What does the calculator command “randInt (0, 99, 10)” perform?

## 6.2 Probability Models (pp.406-434)

1. In statistics, what is meant by the term *random*?
2. In statistics, what is meant by probability?
3. In statistics, what is meant by an independent trial?
4. What is a sample space?
5. What is an event?
6. What is the Multiplication Principle?
7. Explain why the probability of any event is a number between 0 and 1.
8. What is the sum of the probabilities of all possible outcomes?
9. Describe the probability that an event does not occur?
10. When are two events considered disjoint?
11. What is the probability of two disjoint events?
12. What is meant by the complement of an event?

13. When are two events considered independent?
14. What is the multiplication rule for independent events?
15. Can disjoint events be independent?
16. If two events A and B are independent, what must be true about  $A^c$  and  $B^c$ ?

### 6.3 General Probability Rules (pp.435-461)

1. Summarize the 5 Rules of Probability.
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2. What is meant by the *union* of two or more events? Illustrate on a Venn diagram.
3. State the addition rule for *disjoint* events. Illustrate on a Venn diagram.
4. State the general addition rule for *unions* of two events.
5. Explain the difference between the rules in 3. and 4.
6. What is meant by *joint probability*?

7. What is meant by *conditional probability*?
8. State the general multiplication rule for any two events.
9. How is the general multiplication rule different than the multiplication rule for independent events?
10. State the formula for finding conditional probability.
11. What is meant by the *intersection* of two or more events? Illustrate on a Venn diagram.
12. Explain the difference between the *union* and the *intersection* of two or more events.
13. State the formula used to determine if two events are *independent*.