

1. _____ (True/False) Statistics uses only quantitative methods, not qualitative.
2. Statistics uses various methods to analyze, etc., under conditions of _____.
3. In a statistical analysis of why students drop out of school, the data on one student would be called a(n) _____, the list of the grade point averages of all the students would be called a(n) _____ and all of the data on all the students together would be called a(n) _____.
4. _____ data is analyzed at an instant of time.
5. A systematic, repeating, error in our data (such as consumers always exaggerating the amount they spend in a store) creates a _____ in our data.
6. A subset of a population is called a _____.
7. A statistician determines the probability of getting a ticket on US 95 is 8% by driving the road between Tropicana and Charleston 1,000 times while driving 90 miles per hour. This probability was found using which one of the three types of probability?
8. The statistician in #7 also finds that the probability varies depending on the color of the car driven. The probability of a ticket, given we are driving a red car, would be called a(n) _____ probability.
9. Write out the multiplication law of probability.
10. What is the probability that two mutually exclusive events occur at the same time?
11. Two students are to be chosen at random after taking a test. Their possible grades are A, B, C, D, and F. Write out the sample space this experiment.
12. If the probability of event A occurring does not change regardless of the outcome of event B, then A and B are _____ events.
13. The probability that fans find a soccer match boring is 0.9, that the announcer thinks its boring is 0.8, and that the players thinks its boring is 0.7. What is the probability that everyone thinks a match is boring? Show your work.
14. My sock drawer contains four black and three white socks. I select two socks at random from the drawer in the dark each morning.
 - A. Draw a probability tree for this problem and do the math.
 - B. The probability I am wearing a matching pair of socks is _____.
15. Define random. Why do we study things that are random, not unpredictable?
16. Assume that in any stock car race, cars from Rausch Racing have a 30% probability of victory, cars from Sandifer Racing have a 20% probability of victory, cars from Keating Racing have a 10% probability of victory and all other car owners together have the remaining probability.
 - a. What is the probability that the next three races will be won by Rausch Racing? Show your work.
 - b. What is the probability no car from Rausch, Sandifer or Keating will win one of the next three races? Show your work.
17. A survey shows that 80% of students love statistics class, 30% love accounting class, and 25% love both. What percent love at least one of the two classes?

18. The 200 workers in a community have been classified as below:

	Employed (E)	Unemployed (E)
Skilled (S)	80	5
Unskilled (S)	100	15

- Find $P(E)$ Show your work.
- Find $P(E|S)$ Show your work.

19. The probability that the next president will balance the budget is 20%, that they will fix Social Security is 30%, and that they will raise taxes is 80%.

- What is the probability that they will balance the budget, and fix Social Security, but not raise taxes? Show your work.

20. Two coins are to be tossed. If X equals the number of heads that come up, write out both the noncumulative and cumulative probability distributions.

21. A game show offers contestants four possible outcomes shown in the probability distribution below. Find the expected value, variance and standard deviation of the game. X equals the number of prizes won. Show your work.

$E(X) =$ _____ Variance = _____

Standard deviation = _____

X	P(X)
0	0.3
1	0.6
4	0.1