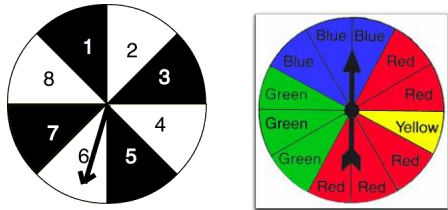


Statistics Q4 Benchmark Review #2

** For variance and standard deviation problems, use $n - 1$. Scientific calculators are permitted

1. Eight letters, A through H, are written on cards and placed in a box. Three letters are randomly selected. What is the probability that D, E, and F are selected in any order?

2. Mary is playing a game using the spinners shown below. She spins each spinner once and gets 1 point if she lands either on "4" or "BLUE". Show how she would calculate the probability that she will get exactly 1 point?



3. A candy company determines that there is a 3% chance that a box of candy is underfilled. If four boxes are taken off the shelf of a store, what is the probability that all of the boxes will be filled properly?

4. The math club has 100 members. There are 50 women and 50 men. Twenty of the women are 21 years of age and older, twenty six of the men are 21 years of age and older. What is the probability that a member who is 21 or older and selected at random will be a man?

5. There are 200 students sitting in the bleachers of the gym watching a basketball game; 110 girls and 90 guys. Two students are randomly selected to shot free-throws for a prize. What is the probability that both students will be girls?

6. Captain Jack Sparrow has a well-shuffled standard deck of cards. He randomly draws one card, and does not replace it, then randomly draws another card. Show how to find the probability that Jack will draw two cards that are both "Nines."

7. The BGHS math department gives 5% each of A's and B's, 28% each of C's and D's and 34% of F's. What is the probability that a student selected at random will receive a "C" or better grade?

8. Kobe, Phil, Shaq, Pau, Andrew, Lamar, and Derek are officers in the drama club. Only 4 of them can go to a conference. The students will be selected randomly, drawing names out of a hat. What is the probability that Pau is chosen?

9. The probability of being left-handed is about 15%. What is the probability that exactly 2 out of 5 students are right-handed?

10. In the last 12 days of June, Garden Grove had 4 days with a high temperature of 75° , 2 days of 82° , 1 day of 100° , and one day each of 74° , 71° , 68° , 77° , and 85° . What was the mean temperature for that period? List in descending order: mean, median, and mode.

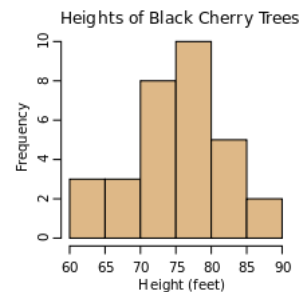
11. The mean salary for the marketing department of a large company is \$80,000. The salaries for the marketing department follow a normal distribution. About 99.7% of the salaries are between \$57,500 and \$102,500. What is the standard deviation of the salaries for the engineering department?

12. Jimmy recorded the wait time, in minutes, it took customers to get their car washed at Matador Wash Car Wash.

15, 18, 14, 18, 19, 25, 17, 18

What is the standard deviation, in minutes, of the data?

13. The heights of black cherry trees are shown in the graph below. Find the mean and median.



14. What value needs to be added to the stem-and-leaf plot to have a mean of 48?

3	1 3 4
4	0 1 2 5
5	3 4
6	
7	4

15. A set of data includes the following numbers:

8, 2, 8, 3, 5, 4, 7, 4, 5, 6

Which statement is true?

- A. The mode is less than the median
- B. The mean is more than the mode
- C. The median and mean are equal
- D. The median lies between the mean and the mode

16. Barry Bond's homerun totals from 1927 to 1935 were **60, 54, 46, 49, 46, 41, 34, 22, 6**. What is the standard deviation to the nearest 0.1 of this data?

17. What is the variance of the data set **25, 23, 24, 25, 31**?

18. The mean score for the statistics test is 65. The scores on the test follow a normal distribution. About 95% of the salaries are between 59 and 71. What is the standard deviation for the statistics test?