Overall Stats Review – Questions and Answers

1. The positional measure of central tendency that divides the data set into two equal parts is the

a. Mean
b. Median
c. Standard deviation
d. Mode

Answer: __b___

2. A researcher has collected the following sample data:

104 105 119 105 104
105 104 123 106 104

The mode is:

Answer: _104

3. Below are the final exam scores from 10 randomly selected students in a Science class:

17, 18, 14, 12, 15, 18, 15, 10, 17,20

The sample mean of the data is _____

The sample median of the data (rounded to 1 decimal place) is _____

Answers:
a. 15.6
b. 16

4. The following is a frequency distribution for the ages of all the Math professors at a University.

Age	Frequency
30 – 39	7
40 – 49	6
50 – 59	8
60 – 69	3
70 - 79	1

The total number of Math professors at the university is_____.

The midpoint of the age class 30-39 is_____.
The mean is_____, given to 1 decimal place.
The modal class is_____.

Answers:
a. 25
b. 34.5
c. 48.5
d. 50 – 59

5. Three Math classes took the same test. The first class had 19 students. Its mean was 70. The second class had 29 students and the class mean was 64. The third had 27 students and the class mean was 81.
The weighted mean of the test (rounded to 1 decimal place), based on the results of all students is:

Answer:___71.6____

6. For her class project, Mary asked 7 students how many members they have in their families. Their responses were the following:
12, 4, 7, 17, 8, 4, 9
Choose **two** correct statements from the following:

a. The range of the given data set is 21.
b. The range is an accurate measure of dispersion.
c. Range is a rough estimate of central tendency.
d. The range is the difference between the highest and lowest value in the data set.
e. The range of the given data set is 13.

Answers: __d and e_____

7. Given the set of data 8, 12, 16, 20, and 27, choose **two** correct statements among the following.

a. The square root of the variance gives the standard deviation.
b. When the values in the data are far from the mean, the variance will be smaller.
c. The standard deviation is the average of the square of distances of each value from the mean.
d. The population standard deviation is 6.56 rounded to the nearest hundredth.

e. The population variance is 6.56 rounded to the nearest hundredth.

Answers: _a and d_

8. In the math quiz, section A had a mean score of 75 and a standard deviation of 4.50, while section B had the same mean score of 75 and a variance of 15.6. Which section is more consistent?

a. Section A is more consistent because it has higher mean value.
b. Section A is more consistent because it has lower standard deviation.
c. Section B is more consistent because it has lower variance.
d. Section B is more consistent because it has lower mean value.

Answer: c

9. The table below shows the time in minutes that 20 students travel from home to the college every day.

Time in Minutes	Frequency
1-5	3
6-10	1
11-15	9
16-20	2
21-25	4
26-30	1

Find the population standard deviation and population variance of the data rounded to one decimal places.
a. Sample standard deviation = _____
b. Sample variance = _____

Answers:
a. 7.1
b. 50.3

10. Which of the following numbers could represent a probability? Choose all the correct answers.

a. $\frac{3}{2}$
b. $\frac{2}{9}$

c. - 1.5
d. 0

Answers: __b and d____

11. The set of all possible outcomes is called a (an):

a. sample space
b. outcome
c. event
d. random

Answer: __a___

12. A spinner with 12 equally sized slices is shown below. The dial is spun and stops on a slice at random. What is the probability that the dial stops on a blue or yellow slice? Write your answer as a fraction.

Answer: __7/12_____

13. A bag contains eight balls labeled 1 to 8. One ball will be randomly picked.
What is the probability of picking an even number? Write your answer as a fraction.

Answer: __1/2_____

14. Ann rolled a number cube 500 times and got the following results.

Outcome Rolled	1	2	3	4	5	6
Number of Rolls	92	73	79	89	84	83

Using Ann's results, answer the following questions. Write your answer as a fraction.

a. What is the probability of getting an even number? _____
b. What is probability of getting a 1? _____

Answers:
a. 49/100
b. 23/125

15. At a concert, there were two types of tickets available – platinum and gold. The following table shows the distribution of 50 adults and 30 children who bought the tickets.

	Platinum	Gold
Adults	32	18
Children	13	17

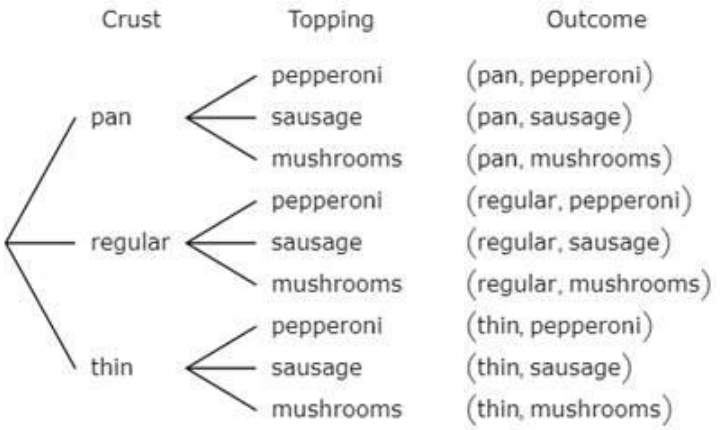
(Write your answer as a fraction.)
a. If a person who went to the concert is selected at random, what is the probability that they bought a platinum ticket? _____
b. If an adult who went to the concert is selected at random, what is the probability that he/she bought a gold ticket? _____

Answers:
a. 9/16
b. 9/25

16. A box contains 3 pieces of dark chocolate fudge, 4 pieces of peanut butter fudge, 3 pieces of orange marble fudge, and 2 pieces of maple fudge. If you select a piece at random, what is the probability you don't select maple fudge? Write your answer as a fraction.

Answer: __5/6_____

17. Lara must choose a crust and a topping for her pizza. There are three crusts to choose from: pan, regular, and thin. There are three toppings to choose from: pepperoni, sausage, and mushroom. The tree diagram below shows the possible outcomes. Use the diagram to answer the questions. Write your answer as a fraction.



a. The probability of choosing sausage or mushrooms is _____.
b. The probability of choosing both thin crust and pepperoni is _____.

Answers:

a. 2/3
b. 1/9

18. There is a red, a white, a blue shirt in a wardrobe. Also, there is a white, a red and a blue skirt in the same wardrobe. Amy picked a shirt and a skirt at random from the wardrobe. Using a tree diagram answer the following questions. Write your answers as a fraction.

a. The probability of her picking a white shirt is_____.
b. The probability that she picks a shirt and skirt that are of the same color is_____.
c. The probability that she picks a red color shirt and a different color skirt is_____.

Answers:

a. 1/3
b. 1/3
c. 2/9

19. Two dice are rolled, and the outcomes are recorded. Using a table answer the following questions. Write your answers as a fraction.

a. The probability of getting a sum greater than 1 is_____.
b. The probability of getting a sum of 6 or 9 is_____.
c. The probability of getting 4 on the first die or second die or both is_____.

Answers:

a. 1
b. 1/4
c. 11/36

20. Creating a phone number of 12 digits, using the digits 0 to 9. Is this selection a permutation or combination?

a. Permutation
b. Combination

Answer: __ a___

21. For a kids' lunch at Burger World, the customer must choose the size of the meal, the type of bun, a side order and a fruit drink. They have the following choices. 4 sizes, 3 types of buns, 3 side orders and 2 fruit drinks. How many kids' lunches are possible?

Answer: __72_____

22. A company has 25 salespeople. A board member at the company asks for a list of the top 4 salespeople, ranked in order of effectiveness. How many such rankings are possible?

Answer: __303,600_____

23. Three research departments have 8, 10, and 7 members, respectively. Each department is to select a delegate and an assistant to represent the department at a conference. In how many ways can this be done?

Answer: _211,680