



STANDARD 8TH: CHAPTER 11

STATISTICS

Q1. Select all correct options

1. If the mean of a data set is 25 and the sum of all the numbers in the set is 150, how many numbers are there in the data set?
 - a. 5
 - b. 6
 - c. 7
 - d. 8
2. The mean of a data sets of six numbers is 20. If one number is removed, the mean becomes 18. What is the removed number?
 - a. 30
 - b. 25
 - c. 20
 - d. 35
3. The monthly average temperature for January, February, and March is 25°C, 28°C, and 30°C, respectively. What is the mean temperature for these three months?
 - a. 27 degree centigrade
 - b. 27.67 degree centigrade
 - c. 27.76 degree centigrade
 - d. 26.67 degree centigrade
4. A group of students took a math test. If 20 students scored a mean of 70 and the remaining 10 students scored a mean of 100, what is the mean of the math test?
 - a. 70
 - b. 80
 - c. 90
 - d. 100
5. A student scores 80, 85, 90, and 95 on four tests. What score does the student need on the fifth test to have an average score of 90?
 - a. 85
 - b. 90
 - c. 95
 - d. 100

6. A group of students has an mean age of 18. If two students, each aged 15 and 16, leave the group and newly two students of aged 14 and 17s are joined the group, what is the new mean age of the remaining students?
- 16
 - 17
 - 18
 - 19
7. The mean weight of a group of ten people is 70 kg. If the weight of a new person is added to the group and the new mean becomes 72 kg, what is the weight of the new person?
- 72
 - 82
 - 92
 - 102
8. Over the course of five consecutive days, Sarah recorded the number of miles she ran each day: 4, 5, 6, 4, 5. What is the average number of miles Sarah ran for first three days?
- 4.8
 - 4
 - 5
 - 6
9. In Town A, 70 out of 100 trees planted are survived. In Town B, 65 out of 80 trees are survived. In Town C, 80 out of 120 trees are survived. In Town D, 50 out of 70 trees are survived. Which town had the most successful tree planting efforts in terms of survival rate?
- A
 - B
 - C
 - D
10. In Town X, 55 out of 70 students passed their math exam. In Town Y, 60 out of 80 students passed the same exam. In Town Z, 70 out of 90 students passed. In Town W, 50 out of 60 students passed. Which town had the most successful performance in terms of the percentage of students passing the math exam?
- X
 - Y
 - Z
 - W

Q2. Solve the followings:

1. Create a subdivided bar graph to illustrate the distribution of boys and girls across grades 5 to 8 in a Z.P. school. Use a scale where 1 cm on the y-axis represents 10 students.

Grade	5 th	6 th	7 th	8 th
Girls	29	23	31	37
Boys	37	31	23	29

2. In the last 20 years, Riverdale Academy has participated in the state-level art competition. The number of art projects submitted each year is given by: 3, 2, 4, 5, 2, 3, 4, 2, 3, 4, 3, 2, 4, 5, 3, 4, 3, 2, 4, 3. Construct a frequency table to represent the frequency of project submissions, and calculate the mean number of projects per year.
3. Over the last decade, Maplewood Elementary School has organized annual science fairs. The number of projects submitted each year is recorded as follows: 4, 5, 3, 2, 4, 3, 5, 2, 4, 3. Create a frequency table to display the distribution of project submissions, and determine the mean number of projects per year.
4. Design a subdivided bar graph to depict the distribution of different types of fruits sold at a local market across four seasons. Use a scale where 1 cm on the y-axis represents 20 kilograms of fruit sold.

Fruits	Spring	Summer	Autumn	Winter
Apples	290	190	370	430
Bananas	370	310	430	290
Oranges	430	370	290	370

5. Design a subdivided bar graph depicting the distribution of students participating in various extracurricular activities across different grade levels (5 to 8) at a local community center. Utilize a scale where 1 cm on the y-axis represents 10 participants. Ensure to differentiate between different activities and genders in the graph.

Grade	5 th		6 th		7 th		8 th	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Activities								
Photography	29	23	31	37	41	43	23	37
Debate	37	31	23	29	31	41	37	43
Chess	43	41	23	37	29	37	41	29

6. The results of a survey conducted among 10th-grade students from various schools reveal their preferences for extracurricular activities. The data collected includes the percentage of students interested in different activities such as sports, music, art, and volunteering. Draw a percentage bar graph to represent the distribution of preferences among the students

School	1 st		2 nd		3 rd		4 th	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Sports	29	23	31	37	41	43	23	37
Music	37	31	23	29	31	41	37	43
Art	43	41	23	37	29	37	41	29
Volunteering	23	37	29	37	43	31	41	19

7. In a regional competition, four teams competed in a quiz contest. The number of correct answers and total questions attempted by each team are provided below. Determine which team had the highest success rate in terms of the percentage of correct answers.
- Team A: 80 correct out of 100 attempted questions
 Team B: 90 correct out of 120 attempted questions
 Team C: 70 correct out of 90 attempted questions
 Team D: 85 correct out of 110 attempted questions.
8. In a class of 30 students, each student has taken 5 tests. The average score for each student across all 5 tests is 85%. However, when the average score for the entire class is calculated, it's found to be 80%. How many students scored below the class average on average across all 5 tests?
9. In a mathematics competition, the scores of 10 contestants are as follows: 92, 85, 89, 96, 78, 91, 88, 94, 82, and 90. If the highest and lowest scores are eliminated, what is the average of the remaining scores?
10. In a class of 30 students, the scores for a particularly difficult math test were as follows: 10 students scored 90, 8 students scored 85, 6 students scored 80, 4 students scored 75, 2 students scored 70. If the teacher decides to curve the grades by adding 5 points to each student's score, what would be the new average score for the class?