

Answer on Question #61545 – Math – Statistics and Probability

Question

7. The following are graphical presentation except
chart
none of the above
pictogram
bar chart.

Answer: pictogram

Question

8. The difference between Largest and Lowest values on a set of observation is called
range
median
mean
mode

Answer: range.

Question

9. Find the mean deviation of the distribution
12, 6, 7, 3, 15, 10, 18, 5
4.25
2.97
4.05
4.38

Solution

$$\bar{x} = \frac{12+6+7+3+15+10+18+5}{8} = 9.5.$$

The mean deviation is

$$MD = \frac{|12 - 9.5| + |6 - 9.5| + |7 - 9.5| + |3 - 9.5| + |15 - 9.5| + |10 - 9.5|}{8} + \frac{|18 - 9.5| + |5 - 9.5|}{8} = 4.25.$$

Answer: 4.25.

Question

10. Find the standard deviation of the distribution

12, 6, 7, 3, 15, 10, 18, 5

4.87

4.97

2.21

5.81

Solution

$$\bar{x} = \frac{12+6+7+3+15+10+18+5}{8} = 9.5;$$

$$\sum_{i=1}^8 (x_i - \bar{x})^2 = (12 - 9.5)^2 + (6 - 9.5)^2 + (7 - 9.5)^2 + (3 - 9.5)^2 + \\ + (15 - 9.5)^2 + (10 - 9.5)^2 + (18 - 9.5)^2 + (5 - 9.5)^2 = 190.$$

The population standard deviation is

$$\sigma = \sqrt{\frac{1}{8} \cdot \sum_{i=1}^8 (x_i - \bar{x})^2} = \sqrt{\frac{190}{8}} \approx 4.87.$$

Answer: 4.87.