Assignment 12

Problem 1

This problem gives information about a 20-sided die. For each question:

- 1. Roll the die 20 times. Use the results to determine if each number from 1 to 20 comes up equally often.
- 2. Calculate the mean of the 20 numbers.
- 3. Compare the mean with the expected value of 10.5.

Problem 2

A box contains 10 balls, 5 of which are red and 5 of which are blue. If you draw two balls at random:

- 1. What is the probability of drawing one red and one blue ball?
- 2. What is the probability of drawing two red balls?
- 3. What is the probability of drawing two blue balls?

Problem 3

A survey was conducted to determine the number of hours per week that 100 students spend studying:

- 1. Graph the data using a bar chart.
- 2. Calculate the mean number of hours spent studying.
- 3. Determine the mode and median number of hours spent studying.

Problem 4

A group of students were asked to rate the difficulty of the course on a scale of 1 to 5:

- 1. Graph the data using a frequency polygon.
- 2. Calculate the mean rating.
- 3. Determine the mode and median rating.

Problem 5

A weather station recorded the temperature each day for a month:

- 1. Graph the data using a line graph.
- 2. Calculate the mean temperature.
- 3. Determine the mode and median temperature.

Problem 6

A company conducted a survey to determine the number of hours per week that employees spend on social media:

- 1. Graph the data using a histogram.
- 2. Calculate the mean number of hours spent on social media.
- 3. Determine the mode and median number of hours spent on social media.

Problem 7

A group of students were asked to rate the quality of the lectures on a scale of 1 to 5:

- 1. Graph the data using a box plot.
- 2. Calculate the mean rating.
- 3. Determine the mode and median rating.

Problem 8

A survey was conducted to determine the number of hours per week that 100 students spend exercising:

- 1. Graph the data using a pie chart.
- 2. Calculate the mean number of hours spent exercising.
- 3. Determine the mode and median number of hours spent exercising.