Descriptive Statistics

Assignment

PW SKILLS

Easy Level

Q1: Understanding Central Tendency (Easy)
A bakery tracks the daily sales of muffins (in dozens) over a week: [10, 12, 11, 15, 14, 13, 12].
What is the most representative value of their weekly sales, and why?

Q2: Mean in Real Life (Easy)
A teacher records the marks of her students in a short quiz: [12, 15, 14, 16, 18, 20, 19].
What is the mean score, and what does it tell us about the class's performance?

Q3: Mode in Real Life (Easy)
A store records the shoe sizes sold in one day: [7, 8, 9, 8, 8, 10, 7, 9].
What is the mode, and why is this information useful for the store manager?

Medium Level

Q4: Median in Real Life (Medium)
A car dealer notes the prices of used cars: [$8,000, $9,500, $10,200, $11,000, $50,000].
Why is the median a better measure than the mean in this case? Calculate the median.

Q5: Dispersion Introduction (Medium)
A student times how long it takes to finish a puzzle each day: [25, 30, 27, 35, 40].
What does the range tell us about the variation in the student's puzzle-solving time?

Q6: Range in Action (Medium)
A farmer records the weekly weight of harvested apples (kg): [100, 105, 98, 110, 120].
Find the range. How can this help the farmer in planning his packaging?

Q7: Variance for Decision-Making (Medium)
Two delivery companies track delivery delays (in minutes).

- Company A: variance = 6
- Company B: variance = 15

  Which company is more consistent, and why?

Hard Level

Q8: Standard Deviation in Context (Hard)
A finance student compares the daily price fluctuations of two cryptocurrencies.

- Coin A: standard deviation = $30
- Coin B: standard deviation = $120

  Which coin is riskier to invest in, and why?

Q9: Combining Measures (Hard)
A family records their monthly electricity usage (in kWh): [400, 420, 390, 450, 410].

Find the mean and standard deviation. What do these values together tell you about the family's energy use pattern?

Q10: Practical Application (Hard)
A basketball player's points in 8 games are recorded: [15, 18, 20, 22, 25, 17, 19, 21].
Find the mean, median, mode, range, and standard deviation. What insights can these measures provide about the player's scoring performance?