Multiple-Choice Test – Describing Quantitative Data

Instructions: Choose ONE option for each question. Do not mark answers in this copy. Suggested time: 35–45 minutes.

1. Which measure is most sensitive to outliers?

A) Median

B) Mode

C) Arithmetic mean

2. The median is defined as the value:

A) With the highest frequency

B) At which 50% of observations are above and 50% below

C) Equal to the arithmetic mean in any distribution

3. In a right-skewed distribution, which ordering typically holds?

A) Mean = Median = Mode

B) Mean < Median < Mode

C) Mode < Median < Mean

4. Which statement about the mode is correct?

A) There can be at most one mode

B) It is defined only for numeric data

C) It is the most frequent value

5. The geometric mean is most appropriate for:

A) Averages of levels with zero values

B) Averaging growth rates over time

C) Averaging absolute deviations

6. The 1st quartile (Q1) is the:

A) 10th percentile

B) 25th percentile

C) 50th percentile

7. The interquartile range (IQR) equals:

A) $Q3 - Q1$

B) $Q2 - Q1$

C) $Q3 - Q2$

8. The coefficient of variation (CV) is useful to:

A) Compare variability across variables with different units

B) Compute the range

C) Detect bimodality

9. Population variance is denoted by:

A) s^2

B) σ

C) σ^2

10. Sample variance divides by:

A) n

B) $n-1$

C) N

11. The mean of grouped data is computed as:

A) Sum of midpoints divided by number of classes

B) Sum of (midpoint × frequency) divided by total frequency

C) Sum of frequencies divided by number of classes

12. For grouped data, the sample variance formula uses:

A) Raw values only

B) Class boundaries only

C) Midpoints, frequencies, and $(n-1)$ in the denominator

13. A leptokurtic distribution is:

A) Flatter than normal

B) More peaked than normal

C) Symmetric with zero variance

14. In Excel, basic descriptive statistics can be produced via:

A) Insert → Scatter

B) Data → Data Analysis → Descriptive Statistics

C) Formulas → Define Name

15. Two datasets have the same mean but different standard deviations. This implies:

A) They have identical distributions

B) They have different spreads

C) Their medians are equal

16. If period returns are 40% and 25%, the geometric mean return is:

A) 35%

B) 32.29%

C) 30%