ACS Quiz

For a data set of {10, 20, 20, 30, 40, 50}, the median and mode of the data is:

20, 25

, Not Selected

20, 30

, Not Selected

Correct answer:

25, 20

30, 20

, Not Selected

**Results for question 2.**

2

1 / 1 point

A scatter plot is primarily used to:

Display frequency

, Not Selected

Show data distribution

, Not Selected

Show central tendency

, Not Selected

Correct answer:

Examine relationships between two variables

**Results for question 3.**

3

1 / 1 point

The Pearson correlation coefficient ranges from:

 0 to +1

, Not Selected

Correct answer:

-1 to +1

-2 to +2

, Not Selected

-0.5 to +0.5

, Not Selected

**Results for question 4.**

4

1 / 1 point

Which of the following is an example of qualitative data?

Weight of Students

, Not Selected

Annual Salary

, Not Selected

 Temperature readings

, Not Selected

Correct answer:

Eye Color

**Results for question 5.**

5

1 / 1 point

A financial analyst is examining the return distributions of two investment portfolios:

* **Portfolio A:** Returns have high peaks and heavy tails compared to a normal distribution.
* **Portfolio B:** Returns have similar peak and tail behavior as a normal distribution.

Which of the following correctly describes the absolute and relative kurtosis of these portfolios?

Both portfolios have kurtosis greater than 3, indicating they are both leptokurtic.

, Not Selected

Portfolio A has a kurtosis of 3 and is mesokurtic. Portfolio B has a kurtosis less than 3 and is platykurtic.

, Not Selected

Portfolio A has a kurtosis of 3 and is mesokurtic. Portfolio B has a kurtosis greater than 3 and is leptokurtic.

, Not Selected

Correct answer:

Portfolio A has a kurtosis greater than 3 and is leptokurtic. Portfolio B has a kurtosis of 3 and is mesokurtic.

**Results for question 6.**

6

1 / 1 point

A teacher recorded the scores of students in a math test and displayed them using the following stem-and-leaf plot:

**Stem | Leaf**  
5 | 2, 4, 7  
6 | 0, 3, 8  
7 | 1, 5, 9  
8 | 0, 2

What is the median score based on this stem-and-leaf plot?

63

, Not Selected

71

, Not Selected

75

, Not Selected

Correct answer:

68

**Results for question 7.**

7

0 / 1 point

What is the interquartile range (IQR) of the data set {5, 10, 15, 20, 25, 30}?

25

, Not Selected

15

, Not Selected

Incorrect answer:

10

Correct Answer:

**15**

20

, Not Selected

**Results for question 8.**

8

1 / 1 point

A school conducted a survey on students’ preferred modes of transportation:

* 50% of students prefer buses
* 25% prefer bicycles
* 15% walk to school
* 10% use private vehicles

In the pie chart representing this data, what angle will the slice for the students preferring bicycles (25%) correspond to?

45°

, Not Selected

120°

, Not Selected

Correct answer:

90°

180°

, Not Selected

**Results for question 9.**

9

1 / 1 point

A five-number summary includes:

Mean, median, mode, variance, standard deviation

, Not Selected

Range, variance, Q1, Q3, median

, Not Selected

Percentiles, quartiles, median, mode, range

, Not Selected

Correct answer:

Minimum, Q1, median, Q3, maximum

**Results for question 10.**

10

1 / 1 point

A bakery records the daily sales of loaves of bread for a month and creates an ogive (cumulative frequency curve) to visualize the data. The following statements are based on the ogive:

1. 50% of the sales are below 40 loaves.
2. The total number of sales recorded is 500.
3. The number of sales below 30 loaves is 150.

Which of the following best describes the estimated number of sales between 30 and 40 loaves?

200

, Not Selected

250

, Not Selected

150

, Not Selected

Correct answer:

100

**Results for question 11.**

11

1 / 1 point

Two students, Alice and Bob, took different standardized tests. Alice scored 85 on a test with a mean of 70 and a standard deviation of 10, while Bob scored 75 on a test with a mean of 60 and a standard deviation of 8.

Who performed better relative to their respective groups?

Alice, because her score is further from the mean compared to Bob’s score.

, Not Selected

They performed equally well, as they both scored above the mean.

, Not Selected

Alice, because her score is higher than Bob’s.

, Not Selected

Correct answer:

Bob, because his score is relatively further from his group’s mean compared to Alice’s.

**Results for question 12.**

12

1 / 1 point

A company tracks delivery times for its online orders. The data below shows the distribution of delivery times (in days). Most orders were delivered within 2 to 4 days, with a few orders taking up to 10 days. Based on the data, which of the following conclusions is most accurate?

The distribution is negatively skewed

, Not Selected

The distribution is symmetrical

, Not Selected

Correct answer:

The distribution is positively skewed

The distribution has low kurtosis with minimal variation in delivery times.

, Not Selected

**Results for question 13.**

13

0 / 1 point

What is the standard deviation of the data set of 5 numbers, i.e. {2, 4, 6, 8, 10}, which has been picked up randomly from a population of 100 numbers?

4.24

, Not Selected

3.16

, Not Selected

Incorrect answer:

2.83

Correct Answer:

**3.16**

5.0

, Not Selected

**Results for question 14.**

14

1 / 1 point

A fitness trainer tracks the number of weekly workout hours and corresponding weight loss (in kg) for a group of clients. The scatter plot shows an upward trend between workout hours and weight loss. The Pearson correlation coefficient is calculated to be +0.85. What does this indicate about the relationship?

There is a strong negative relationship between workout hours and weight loss.

, Not Selected

Correct answer:

There is a strong positive relationship between workout hours and weight loss.

There is a weak positive relationship between workout hours and weight loss.

, Not Selected

There is no relationship between workout hours and weight loss.

, Not Selected

**Results for question 15.**

15

1 / 1 point

Which of the following is a descriptive statistic?

Correct answer:

Mean

Regression Analysis

, Not Selected

Hypothesis Testing

, Not Selected

Confidence Interval

, Not Selected

**Results for question 16.**

16

0 / 1 point

A utility company wants to investigate the electrical consumption for a residential area. The output shown below summarizes information on kilowatt hours per day (KWH) for a sample of 40 customers. Based on this information, at least 75% of the KWH values would be **greater than or equal to** what value?

A table with numbers and a variety of text

AI-generated content may be incorrect.

49.00

, Not Selected

48.87

, Not Selected

Incorrect answer:

56.25

Correct Answer:

**41.00**

41.00

, Not Selected

**Results for question 17.**

17

1 / 1 point

The cumulative frequency of a class is:

Correct answer:

The total of all previous frequencies

The mean of the class

, Not Selected

The number of observations in the class

, Not Selected

The difference between class limits

, Not Selected

**Results for question 18.**

18

1 / 1 point

A factory tracks the daily production of widgets, which has a mean of 500 units and a standard deviation of 20 units. What is the minimum proportion of daily production values that fall between 440 and 560 units?

84%

, Not Selected

75%

, Not Selected

93.75%

, Not Selected

Correct answer:

88.90%

**Results for question 19.**

19

1 / 1 point

A hospital collects the following data about its patients:

1. Patient ID number (e.g., 10234)
2. Severity of illness categorized as "Mild," "Moderate," or "Severe"
3. Body temperature in Celsius
4. Time spent in the waiting room (in minutes)

Which of the following correctly matches the scale of measurement for each variable?

Patient ID

Correct match:

Nominal

Waiting Time

Correct match:

Ratio

Temperature

Correct match:

Interval

Severity

Correct match:

Ordinal

**Results for question 20.**

20

0 / 1 point

Chebyshev’s Theorem states that at least 75% of the data lies within:

4 standard deviation

, Not Selected

3 standard deviation

, Not Selected

2 standard deviation

, Not Selected

Incorrect answer:

1 standard deviation

Correct Answer:

**2 standard deviation**