✅ **Congratulations! You passed!**

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1. A grocery delivery business wants to improve customer response rates for their company's monthly postcard mailer. They send a postcard with the same information to all customers. But half of the customers get a headline about faster delivery speeds, and half get a headline about more delivery drivers available in their area. What does this scenario describe?

1 / 1 point

○ Regression analysis

⦿ A/B testing

○ Hypothesis testing

○ Time series analysis

✓ **Correct**

2. Which of the following statements correctly describe key elements of inferential statistics? Select all that apply.

1 / 1 point

☑ A population includes every possible element to be measured.

✓ **Correct**

☑ Before conducting a test, data professionals choose the sample size.

✓ **Correct**

☑ Sampling is the process of selecting a subset of data from a population.

✓ **Correct**

☐ Inferential statistics is the process of selecting a subset of data from a population.

3. A data professional working for a water conservancy researches household water usage in a large city. Their dataset contains about 800,000 rows of data capturing how much water each household uses in a month. The data professional creates visualizations to quickly understand the data and create a summary for stakeholders. What does this scenario describe?

1 / 1 point

○ Inferential statistics

○ Confidence intervals

○ Statistical significance

⦿ Descriptive statistics

✓ **Correct**

4. Fill in the blank: A _____ is a characteristic of a sample.

1 / 1 point

⦿ statistic

○ measure

○ range

○ parameter

✓ **Correct**

5. A data analytics team collects responses from a customer satisfaction survey that asked customers to rate their experience from 1 to 10. The analytics team arranges the values in the dataset from worst (1) to best (10). Then, they identify the middle value. What descriptive statistic are they using?

1 / 1 point

○ Mean

○ Mode

○ Minimum

◉ Median

✓ **Correct**

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6. A data professional works with the following dataset: 2, 2, 4, 7, 10. What is the mean of the dataset?   `1 / 1 point`

◉ 5

○ 2

○ 10

○ 4

✓ **Correct**

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7. What do measures of dispersion, such as range and standard deviation, help a data professional understand about their data?   `1 / 1 point`

◉ Spread

○ Maximum value

○ Center

○ Minimum value

✓ **Correct**

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8. A data professional is analyzing tomato growth data. Their dataset includes the circumference of tomatoes in millimeters: 40, 49, 50, 52, 66.3, 77.5, 78, 80. What is the range of their dataset?   `1 / 1 point`

○ 500.3

○ 62.5

○ 51

◉ 40

✓ **Correct**

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9. A data professional is analyzing data about annual work income in dollars. They divide the data into quartiles: Q1 = $40,000, Q2 = $55,000, Q3 = $70,000. What is the interquartile range, or IQR, of their dataset?   `1 / 1 point`

○ $55,000

○ $40,000

◉ $30,000

○ $15,000

✓ **Correct**

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10. If you apply the `describe()` function to numerical data, the results will include which of the following descriptive statistics? Select all that apply.   `0.5 / 1 point`

☐ Median

☑ Range

⊗ **This should not be selected**
Review the video about using Python to compute descriptive statistics. ↗

☑ Mean

✓ **Correct**

☑ Standard deviation

✓ **Correct**