✓ **Congratulations! You passed!**

Grade received 100% **Latest Submission Grade** 100% **To pass** 80% or higher

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1. A data team at a household goods retailer is asked to predict the success of an upcoming sale on patio furniture. To make an informed prediction, they use statistics to analyze data on past patio furniture sales. What type of probability are they using?   **1 / 1 point**

○ Dependent

○ Independent

⦿ Objective

○ Subjective

✓ **Correct**

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2. If all outcomes of an event are equally likely, how is its probability calculated?   **1 / 1 point**

○ Divide the total number of certain outcomes by the number of possible outcomes.

○ Divide the total number of possible outcomes by the number of desired outcomes.

⦿ Divide the number of desired outcomes by the total number of possible outcomes.

○ Divide the total number of possible outcomes by the number of certain outcomes.

✓ **Correct**

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3. A coin is tossed twice. To calculate the probability of getting two heads in a row, which of the following equations should be used?   **1 / 1 point**

○ ½ - ½

○ ½ + ½

○ ½ ÷ ½

⦿ ½ * ½

✓ **Correct**

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4. Which of the following events are mutually exclusive? Select all that apply.   **1 / 1 point**

☑ Getting a 4 and a 6 on the same die roll

✓ **Correct**

☑ Getting heads and tails on the same coin toss

✓ **Correct**

☐ Getting heads on a first coin toss and tails on a second coin toss

☐ Getting a 4 on a first die roll and a 6 on a second die roll

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5. What concept refers to the probability of an event before new data is collected?   **1 / 1 point**

○ Conditional probability

⦿ Prior probability

○ Subjective probability

○ Posterior probability

✓ **Correct**

6. Which of the following are examples of continuous random variables? Select all that apply.

1 / 1 point

- ☑ The time it takes for a person to run a race

  ⊘ **Correct**

- ☐ The number of students in a math class
- ☑ The weight of a polar bear

  ⊘ **Correct**

- ☑ The height of a redwood tree

  ⊘ **Correct**

7. Fill in the blank: The _____ distribution best models the number of heads in 10 fair coin flips.

1 / 1 point

- ○ Bernoulli
- ⦿ Binomial
- ○ Normal
- ○ Poisson

  ⊘ **Correct**

8. A data professional working for a smartphone manufacturer is analyzing sample data on the weight of a specific smartphone. The data follows a normal distribution, with a mean weight of 150g and a standard deviation of 10g. What data value lies 3 standard deviations below the mean?

1 / 1 point

- ○ 180g
- ⦿ 120g
- ○ 160g
- ○ 130g

  ⊘ **Correct**

9. The mean and the standard deviation of a standard normal distribution always equal what values?

1 / 1 point

- ○ Mean = 1; standard deviation = 2
- ○ Mean = 2; standard deviation = 1
- ⦿ Mean = 0; standard deviation = 1
- ○ Mean = 0; standard deviation = 2

  ⊘ **Correct**

10. A data professional is analyzing sales data for a retail store. The data follows a normal distribution. What Python function can they use to compute z-scores for the data?

1 / 1 point

- ○ `mean.zscore()`
- ○ `median.zscore()`
- ⦿ `stats.zscore()`
- ○ `normal.zscore()`

  ⊘ **Correct**