

- 1. What is the correct syntax to import the numpy module with the nickname np?
 - A. import numpy as np
 - B. import numpy with name np
 - C. import.numpy.np
 - D. import numpy with nickname np
- 2. The time it takes Johnny to bike from his apartment to UCSB varies uniformly between 18.3 minutes and 23.5 minutes. What is the probability that Johnny will take exactly 20 minutes to bike from his apartment to UCSB today?
 - A. 0.000
 - B. 0.1923
 - C. 0.3269
 - D. None of the above
- 3. Consider a random variable X with the following density curve:



What is the probability that is shaded in the figure above? (If the figure is hard to read: the region shaded is the region underneath the density curve between x = 0.1 and x = 0.8.)

- A. $P(X \le 0.1) P(X \le 0.8)$
- B. $P(X \le 0.8) P(X \le 0.1)$
- C. $P(X \ge 0.1) P(X \le 0.8)$
- D. None of the above

4. Suppose 34% of all residents in a particular country live in a two-story home. In a representative sample of 300 residents, 30% are found to live in a two-story home. Select the answer choice that best fills in the blanks in the following sentence:

The value of 34% is a (Blank 1), and the value of 30% is a (Blank 2).

- A. Blank 1: population parameter; Blank 2: population parameter
- B. Blank 1: population parameter; Blank 2: sample statistic
- C. Blank 1: sample statistic; Blank 2: population parameter
- D. Blank 1: sample statistic; Blank 2: sample statistic
- 5. "Survivor" is a popular reality TV show where contestants, known as castaways, are stranded in a remote location to compete in challenges for rewards and immunity from elimination in order to be the last one standing, the lone survivor. The amount of rice the castaways consume each day follows a uniform distribution between half a cup to two and half cup of rice.
 - A. What is the expected amount of rice a randomly selected castaway eats in a day and what is its standard deviation?
 - a. EX = 1.5 cups, SD(X) = 0.1666
 - b. EX = 1 cup, SD(X) = 0.1666
 - c. EX = 1.5 cups, SD(X) = 0.5774
 - d. EX = 1 cup, SD(X) = 0.5774
 - B. What is the probability that a randomly selected castaway eats between 0 to 0.75 cups of rice?
 - a. 0.5
 - b. 0.375
 - c. 0.125
 - d. None of the above
- 6. A recent US survey shows that 46% of Americans watch Survivor. Mallory takes a sample of 250 people and records the proportion of them who watch Survivor.
 - A. If Mallory is interested in finding the probability that over 44% of the sample watched Survivor, what are the conditions Mallory should check to use the Central Limit Theorem for Proportions?
 - a. $(250)(0.44) \ge 10, (250)(0.56) \ge 10$
 - b. $(250)(0.44) \le 10, (250)(0.56) \le 10$
 - c. $(250)(0.46) \ge 10, (250)(0.54) \ge 10$
 - d. $(250)(0.46) \le 10, (250)(0.54) \le 10$
 - B. What is the probability that the proportion of people in the sample who watch Survivor lies within 5% of the reported 46%?
 - **a.** $P(Z \ge 1.587) P(Z \le -1.587)$

b. $P(Z \le 1.587) - P(Z \le -1.587)$ c. $P(Z \le 1.587) - P(Z \ge -1.587)$ d. $P(Z \ge 1.587) - P(Z \ge -1.587)$ e. None of the above