Name_____

Mock Exam Three

1. The percentage of all people in America who like math is 20%. If a group of 120 Americans is randomly selected, what is the probability that at least 16% of them actually like math?

2. A new donut shop is opening up and the owner wants to figure out how long the average wait time for a customer to get their donuts will be. The owner takes data from the first 3 hours of sales and comes up with these figures, he sampled 50 individual customers. The average wait time he found was 240 seconds with a standard deviation of 48 seconds. Find a 90% confidence interval for the average wait time of a customer.

3. In order to figure out the percentage of Japanese people who have donated blood at least once in their lifetime, 350 people were randomly selected and polled. Of the 350 asked, 75 have donated at least once.

A) What is the population?

B) What is the sample?

C) What is the population parameter?

D) What is the best point estimate for the population parameter we are trying to estimate?

E) Find a 95% confidence interval for the percentage of Japanese People who have donated blood at least once in their lifetime.

F) What does the 95% in a 95% confidence interval mean?

4. The following data represents the cost of doritos across all American states. A sample size of 15 was used.

n=15 s= 0.45 x(Bar) = 3.66

A) Construct a 98% confidence interval for the standard deviation of the cost of a bag of doritos from across America.

5. State the central limit theorem.

6. Assume the length of a green tree frog's life is normally distributed with a mean of 8.86 years and a standard deviation of 1.2 years.

A) What is the probability that a randomly selected frog lives longer than 10 years?

B) 14 frogs are being observed by scientists at the end of their(frog) respective lifetimes. What is the probability that the average length of these frog lifetimes is between 8.2 years and 9.6 years?