

Name: _____

AP Statistics Chapter 9 Graded Assignment

1. A sample of size 81 is drawn from a normal population with a mean of 69 and a standard deviation of 14. What are the mean and standard deviation of the distribution of sample means?

2. A sample of size 25 is drawn from a normal population with a mean of 62. If the standard deviation of the distribution of sample means is 3.5, what is the standard deviation of the original population?

3. Current research indicates that the distribution of the life expectancies of a certain protozoan is normal with a mean of 45.5 days and a standard deviation of 3.4 days. Find the probability that

a) a randomly selected protozoa will live for 49 or more days.

b) a sample of 300 protozoa selected at random will live for 49 or more days.

4. At a large bank, balances are normally distributed with a mean of \$1637.52 and a standard deviation of \$623.16. What is the probability that a simple random sample of 400 accounts has a mean that exceeds \$1650?

5. SAT Math scores are normally distributed with a mean of 500 and a standard deviation of 100. What is the probability that

a) a randomly selected student scores between 490 and 510?

b) a random sample of 100 students has a mean score between 490 and 510?

6. Thirteen percent of all adults are left handed. Find the probability that, in a sample of 100 randomly selected adults, there are no more than 10% left-handed people.

7. A distribution is strongly skewed. Describe the shape of the sampling distribution. Explain your reasoning.

a) the sample size is 10

b) the sample size is 100