

**AP STATISTICS**  
**PROBLEM SET 01**

DUE DATE: JANUARY 17, 2024

**Question 1.** Complete the AP Classroom assignment Problem Set 1.

**Question 2.** A bottling machine operating with a standard deviation of 0.12 ounces. Suppose that in a simple random sample of 49 bottles, the machine inserted an average of 16.1 ounces into each bottle.

- (1) Give a 95% confidence interval for which the actual mean amount of liquid dispensed per bottle.
- (2) Create a 99% confidence interval estimate of the actual mean amount of liquid dispensed per bottle.

**Question 3.** If the standard deviation of weight among cats is approximately 1.2 pounds, how large of a sample size  $n$  should you take to be 95% confident that the sample average weight of  $n$ -cats will differ from the average weight of cats by no more than 1 pound?