

## AP STATISTICS CLASSWORK

DUE DATE: NOVEMBER 15, 2023

**Question 1.** A factory has a machine designed to produce 1 kg bags of sugar. It is found that the average weight of sugar in the bags is 1.02 kg. Assuming that the weights of the bags are normally distributed, find the standard deviation if 1.7% of the bags weight below 1 kg.

**Question 2.** The naked mole rat has a life expectancy of 22 years with a standard deviation of 3 years.

- (1) What is the probability that the mean life expectancy is between 19 and 23 years?
- (2) The mean life expectancy is at least how many years with a corresponding probability of 0.9?
- (3) In a random sample of 40 naked mole rats, what is the probability that the mean life expectancy is between 19 and 23 years?