1. Suppose that the distance of fly balls hit to the outfield (in baseball) is normally distributed with a mean of 250 feet and a standard deviation of 50 feet. We randomly sample 49 fly balls. What is the probability that the 49 balls traveled an average of less than 240 feet?

2. Suppose that a category of world-class runners are known to run a marathon (26 miles) in an average of 145 minutes with a standard deviation of 14 minutes. Consider 49 of the races. Find the probability that the runner will average between 142 and 146 minutes in these 49 marathons.