

DETERMINING SAMPLE SIZE FOR CONFIDENCE INTERVAL FOR POPULATION MEAN

The Golf Ball Example



THE PROBLEM:

Suppose we need to know the mean driving distance for a new composite golf ball within 3 yards, with 95% confidence. A previous study had a standard deviation of 25 yards. How many golf balls must we test?



THE SOLUTION:

$$n = \frac{(z_{\alpha/2})^2 \sigma^2}{SE^2}$$

$$n = \frac{1.96^2 25^2}{3^2}$$

$$n = 266.78 \cong 267$$