

Example of CI interpretation statement: "We are 95% confident the true mean eruption time of Old Faithful is between 2.5 and 3.5 minutes."

A consumer testing agency wants to evaluate the claim made by a manufacturer of discount tires; the claim is that its tires can be driven at least 35,000 miles before wearing out. Assume that these tires have a normal distribution, and its standard deviation is 5,000 miles.

To determine the average number of miles that can be obtained from the tires, the agency randomly selects 60 tires from the manufacturer's warehouse and places the tires on 15 similar cars driven by test drivers on a 2-mile oval track, with sample mean of 31,470 miles.

$$\bar{X} = 31470, \sigma = 5000, n = 60$$

$$\bar{X} \pm bound = \bar{X} \pm z^*(se)$$