

1. A rental car fleet owner suspects the mean annual mileage of his cars is greater than the national mean of 12,000 miles.

The null and alternative hypotheses are

He selects a random sample of 225 cars and finds that

$$\bar{x} = 12,375 \text{ miles} \quad s = 2,415 \text{ miles}$$

Determine the z-score for the sample.

Determine the *P-value* for the sample.

What does this P-value imply?

2. At one school, the average amount of time that tenth-graders spend watching television each week is 21 hours. The principal introduces a campaign to encourage the students to watch less television.

The null and alternative hypotheses are

A year later she selects a random sample of 80 students and finds that $\bar{x} = 20.4$ hours $s = 2.4$ hours

Determine the z-score for the sample.

Determine the *P-value* for the sample.

What does this P-value imply?

3. A health insurer has determined that the reasonable fee for a certain medical procedure is \$1200. They suspect that the average fee charged by one particular clinic for this procedure is higher than \$1200.

The null and alternative hypotheses are

They select a random sample of 65 patients and find that $\bar{x} = \$1,280$ $s = \$220$

Determine the z-score for the sample.

Determine the *P-value* for the sample.

What does this *P-value* imply?

4. A drug company that wants to be sure that its "500-milligram" aspirin tablets really contain 500 milligrams of aspirin.

The null and alternative hypotheses are

The company selects a random sample of $n = 100$ tablets and finds that they have a mean weight of $\bar{x} = 501.5$ milligrams and a standard deviation of $s = 7.3$ milligrams.

P – value for one tailed

P – value for two tailed