

2. Before Facebook's recent redesign, the mean number of ad clicks per day was 100K. In the 49 days after the redesign, the mean number of ad clicks per day was 105K and the standard deviation was 35K. Is there significant evidence that the redesign affected the expected number of ad clicks? Perform a test at the 5% level.

(a) What is the sample? What is the population?

(b) What are the null and alternative hypotheses?

(c) What is the test statistic?

(d) Approximately what is the p -value?

(e) What assumptions are you making?

(f) What is α ? What is the result of the test?

Types of Errors

3. In a hypothesis test, our decision will either be “reject H_0 ” or “do not reject H_0 ”. Under what situations will each of these decisions be in error?

4. We reject H_0 when the p -value is below α .

(a) If H_0 is true, what is the probability of making a Type I error?

(b) If H_0 is false, what is the probability of *not* making a Type II error?

