

STA13 - Week 11 Study Objectives

You should be able to

1. Be familiar with the notation used in two sample tests.
2. Write down null and alternative (3 types) hypotheses for tests of the difference between two population means.
3. Write down null and alternative (3 types) hypotheses for tests of the difference between two population proportions.
4. Understand the properties (Normal? Mean? Sd?) of the sampling distribution of a difference between two sample means from independent samples.
5. Understand the properties (Normal? Mean? Sd?) of the sampling distribution of a difference between two sample proportions from independent samples.
6. Use the formulas to compute the t statistic and degrees of freedom for a two sample t test of the difference between two population means.
7. Use the formulas to compute the z statistic for a large sample z test of the difference between two population proportions.
8. Perform a two sample test (difference in means or difference in proportions) at a specified level α (*i.e.* compute the test statistic and p-value).
9. Describe when the two sample t test is appropriate, including for comparing two treatments. Discuss the role of randomization in making causal inferences.
10. Describe when the large sample z test is appropriate.
11. Construct a two sample t confidence interval for the difference between two population means.
12. Construct a large sample z confidence interval for the difference between two population proportions.