

- A survey of 1,500 Canadians reveals that 945 believe that there is too much violence on television. In a survey of 1,500 Americans, 810 believe that there is too much violence on television. Based on this data, can we conclude, at the 0.01 level, that Canadians and Americans differ with respect to the proportion of people who think that there is too much violence on television?
- The owner of a service station wants to determine if owners of new cars (two years old or less) change their cars' oil more frequently than owners of older cars (more than two years old). From her records she takes a random sample of ten new cars and ten older cars and determines the number of times that the oil was changed in the last 12 months. Based on the data that follow, does she have enough evidence to conclude that the new car owners do in fact change their oil more regularly, at the 0.05 level? (Assume that the data is normal.)

New Cars	6	3	3	3	4	3	6	5	5	4
Older Cars	4	2	1	2	3	2	2	3	2	1

- Because of the rising costs of industrial accidents, many chemical, mining, and manufacturing firms have instituted safety courses. Employees are encouraged to take these courses designed to heighten safety awareness. A company is trying to decide whether to switch from their current class, to one that claims to better educate employees. To make the decision, they randomly choose sixteen employees, and have eight take each course. After the courses, each employee takes a test and is graded out of a possible 25 points. The results are shown below. Assume that these scores come from normal distributions. Based on this data, can the company conclude, at the 0.05 level, that the new course is better than their current course?

Current	14	21	17	14	17	19	20	16
New	20	18	22	15	23	21	19	15

- Thirty-five employees who completed two years of college were asked to take a basic mathematics test. The mean and standard deviation of their scores were 75.1 and 7.8, respectively. In a random sample of 50 employees who only completed high school, the mean and standard deviation of the test scores were 72.1 and 9.6, respectively. Can we conclude that as a group those who had two years of college scores better on average than those with no college, at the 0.10 level?