

- Random sampling from two normal populations produced the following results:
 - $\bar{x}_1=412$, $s_1=128$, $n_1=150$
 - $\bar{x}_2=405$, $s_2=54$, $n_2=150$
- Can we infer at the 5% significance level that μ_1 is greater than μ_2 ?
- Compute the 90% confidence interval for $\mu_1 - \mu_2$.

- Is drug use the same in high school for boys and girls? 85 boys and 70 girls were questioned and 34 boys and 14 girls admitted to trying some sort of drug. What can be concluded at the 0.01 level?

- A men's softball league is experimenting with a yellow baseball that is easier to see during night games. One way to judge the effectiveness is to count the number of errors. In a preliminary experiment the yellow baseball was used in 10 games and the traditional white baseball was used in another 10 games. The number of errors in each game was recorded and is listed here. Can we infer that errors are different? Use $\alpha = 0.10$.
- Yellow: 5 2 6 7 2 5 3 8 4 9
- White: 7 6 8 5 9 11 8 3 6 10

- In a study of 93 elderly males who had suffered a heart attack, 49 of the 54 who owned pets survived for two years, while only 28 of the 39 who didn't own pets survived two years.
- Does owning a pet significantly increase the two year survival rate?

- How effective are antilock brakes? As a test, a car buyer organized an experiment. He hit the brakes, and using a stopwatch, recorded the number of seconds it took to stop an ABS-equipped car and another identical car without ABS. The speeds when the brakes were applied and the number of seconds each took to stop on dry pavement are listed here. Can we infer that ABS is better ($\alpha=0.05$)?

Speeds	20	25	30	35	40	45	50	55
ABS	3.6	4.1	4.8	5.3	5.9	6.3	6.7	7.0
Non-ABS	3.4	4.0	5.1	5.5	6.4	6.5	6.9	7.3