

## Final Review #2

1. A sample of 12 business professors showed that they read a mean of 26.6 journal articles per month, with a standard deviation of 14.8 journals. Construct a 99% confidence interval for the mean number of journal articles read per month by all business professors.
2. A new company claims that the average monthly long distance bill is less than \$20. A sample of 36 of their customers produced a mean monthly bill of \$19.18. If the population standard deviation is \$3.87, test the company's claim at the 0.01 level of significance.
3. The Visalia Police Department has installed cameras designed to catch drivers running red lights. The number of red light tickets was recorded for one week prior to their installation and one week after.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Before	7	21	27	18	20	24	16
After	8	18	24	19	16	19	16

Test the claim that the cameras have lowered the number of people running red lights at the 0.05 level of significance.

4. A sample of 200 Toyota Highlander owners showed that 166 would buy another Highlander. A sample of 175 Chrysler Pacifica owners revealed that 125 would buy another Pacifica. At the 0.05 level of significance, test the claim that the customer satisfaction rates are the same for both models.
5. What percentage of stolen base attempts are successful in the major leagues? In 373 randomly selected stolen base attempts, 259 of the runners were safe. Construct a 90% confidence interval for the proportion of all stolen base attempts that are successful.

6. A company is studying the absence patterns of its workers. A sample of 362 absences showed the following results:

Day	Mon	Tue	Wed	Thu	Fri
Absences	87	62	71	68	74

At the 0.05 level of significance, test the claim that the proportion of absences is the same for each day of the week.

7. A soft drink company is trying out three new marketing strategies in three different cities. The number of cases sold in these three markets is recorded for 6 weeks.

City A	City B	City C
42000	35000	43000
37000	36500	47500
41000	40000	52500
45000	41500	53000
46500	45000	48000
49500	44000	55000

Test the claim that the mean number of cases sold per week is the same for each of the 3 marketing strategies at the 0.05 level of significance.

8. A sample of 607 Americans reveals that 137 of them smoke cigarettes. Use this sample information to test the claim that more than 20% of all Americans smoke, at the 0.05 level of significance.

9. A guidance counselor claims that the mean number of hours worked per week by high school students is 10 hours per week. A sample of 25 high school students produced the following results.

4	5	7	5	5	9	4	6	5
7	8	7	7	6	6	11	8	
3	4	4	6	6	4	5	5	

Test the claim at the 0.01 level of significance.

10. A company is studying the absence patterns of its workers, trying to determine whether the day that a person is absent has anything to do with the shift that the person works. A sample of 362 absences showed the following results:

Shift	Mon	Tue	Wed	Thu	Fri
Day	52	28	37	31	41
Night	35	34	34	37	41

At the 0.05 level of significance, test the claim that the day of absence is independent of the shift worked.