

Which Test/Interval?

For each situation, state which confidence interval or hypothesis test should be used. Use the following table to help you:

Confidence Intervals	Hypothesis Tests
CI for a mean	HT for a mean
CI for a proportion	HT for a proportion
CI for the difference btw. 2 means	HT for the difference btw. 2 means
CI for a paired difference	HT for a paired difference
CI for the difference btw. 2 proportions	HT for the difference btw. 2 proportions
CI for the slope of a regression line	Chi Square Test for Indep.
	Chi Square GOF Test
	Linear Regression Test

1. How much more likely are Californians to attend church than New Yorkers? 500 Californians and 300 New Yorkers were asked.
2. Are unemployed people more likely to commit a felony than employed people? 5000 unemployed and 20,000 employed people were asked.
3. Is the type of dwelling that a person lives in related to the job the person has? 2000 people were surveyed.
4. Do students who spend time with a tutor earn a higher class average than those who do not have a tutor? 43 students who used a tutor and 72 students who did not use a tutor took part in the study.
5. What percent of new calculators are defective? A study was done on 4,000 calculators.
6. 65 monkeys were part of an experiment where they were each placed in front of a computer for three hours to learn ten words. Then they were given a 3 hour lesson from a human to learn a different set of ten words. The number of successfully learned words from the computer lesson and the human lesson were recorded. How much more effective was the human lesson?

7. How much better is the average return on a high risk mutual fund compared to a low risk mutual fund? 38 high risk funds and 56 low risk funds were compared.
8. Are some age groups more likely to commit crimes than other age groups? The number of crimes for each age group was studied by an investigator.
9. The average on a certain statistics test is 78%. 45 students are assigned to complete a computer review program. What is the average score on this test for the students who were assigned to complete the review?
10. Do people spend fewer than 2 weeks per year on vacation? 1500 people were surveyed.
11. Are blondes more likely to have a boyfriend than the rest of the single world? Currently 38% of all single (unmarried) women have a boyfriend. A random sample of 300 blondes was investigated.
12. Is there a relationship between the time spent studying for the AP exam and your score on the AP exam? 150 students participated in the study.
13. What is the slope of the regression equation relating hand span to height? 81 AP Statistics students participated in the study.
14. Does listening to Mozart improve your performance on tests? 21 subjects worked a paper and pencil maze. After randomizing the order, the subjects' average time on three trials was recorded. One set of three trials was without music while the other set of three trials was with music.