Requirement	**Met by satisfying this condition**	**For these tests and confidence intervals:**
2 separate populations and	a random sample from each of the populations	2 sample t-test and confidence interval for difference of two means 2 sample z-test and confidence interval for difference of two proportions X^2 test of homogeneity
Observations are independent	Random sample(s) Note: This only applies when actually sampling from a population. In an observational study there may not be an actual population out there. For experiments, random assignment to treatment	1 sample t-test and confidence interval for means 2 sample t-test and confidence interval for difference of two means matched pairs t-test and confidence interval for mean difference 1 sample z-test and confidence interval for proportions 2 sample z-test and confidence interval for difference of two proportions test and confidence interval for linear relationship X^2 test of goodness of fit X^2 test of association X^2 test of homogeneity
The population is large enough to use appropriate form of $\sqrt{\frac{pq}{n}}$ or $\frac{S_x}{\sqrt{n}}$ to approximate the standard deviation(s) of the sampling distribution(s)	$N \geq 10n$ $N_1 \geq 10n_1$ and $N_2 \geq 10n_2$ Note: This only applies when actually sampling from a population. In an observational study there may not be an actual population out there.	1 sample t-test and confidence interval for means matched pairs t-test and confidence interval for mean difference 1 sample z-test and confidence interval for proportions 2 sample t-test and confidence interval for difference of two means 2 sample z-test and confidence interval for difference of two proportions

Requirement	**Met by satisfying this condition**	**For these tests and confidence intervals:**
The normal distribution may be used to determine the p value if …	$n\bar{p}$ and $n\bar{q}$ are both at least 10. np and nq are both at least 10. $n_1\bar{p}_1$ and $n_1\bar{q}_1$ and $n_2\bar{p}_2$ and $n_2\bar{q}_2$ are all at least 5. n_1p_1 and n_1q_1 and n_2p_2 and n_2q_2 are all at least 5.	1 sample z Confidence Interval for proportions 1 sample z-test for proportions 2 sample z-confidence interval for difference of two proportions 2 sample z-test for difference of two proportions
The t distribution may be used to determine the p-value if…	the population has a normal distribution or if n < 15, and the distribution of the data is fairly symmetric with no outliers or, if 15 ≤ n ≤ 40 and the sample data has no large outliers or, if n > 40. Both samples or populations meet the above criteria. The distribution of the differences meets the above criteria.	1 sample t-test or Confidence Interval for means 2 sample t-test or Confidence Interval for difference of two means matched pairs t-test or Confidence Interval for mean difference

Requirement	**Met by satisfying this condition**	**For these tests and confidence intervals:**
The sample is large enough to use the X^2 procedures to determine the p value	All expected counts are at least 1 and no more than 20% of the expected counts are smaller than 5.	X^2 test of goodness of fit X^2 test of association X^2 test of homogeneity
There is an approximately linear relationship between μ_y and x: i.e. $\mu_y = \sigma + \beta x$	The residuals ($y - \hat{y}$) are randomly scattered and the residuals are independent and the distribution of the residuals is approximately normal. Note: Linearity may have to be assumed from the given graph or statistics.	t test and confidence interval for linear relationship