The Table!	**Categorical Data** proportions, percents, counts	**Numeric Data** means, correlation, slope
Basic Tests 1 or 2 groups, categories, choices, factors, or levels 2 SD Rule applies Can be left, right, or both tails	one proportion (3.1) p=0.40 40% of people favor banning cell phones on public transportation. Less than 20% of people approve of the job Congress is doing. two proportions (3.2) $p_1=p_2$ Men are more likely than women to chew tobacco. Whites are more likely than Blacks to trust police. Gender is not a factor in whether or not a person owns a gun.	one mean (4.1) μ=61.5 The mean weight of a bag of Skittles is 61.5g paired means (4.2) $\mu_d=0$ A person's weight before a diet was the same as the weight after the diet. two independent means (4.3) $\mu_1=\mu_2$ Women have higher estrogen levels than men. correlation (5.x) ρ=0 The size of a person's foot is related to the length of their forearm.
Distribution	Normal (Z)	Student's T
Test Statistic	$z = \dfrac{observed - expected}{standard\ deviation}$	$t = \dfrac{observed - expected}{standard\ error}$
Minitab	Stat > Basic Statistics	Stat > Basic Statistics
Advanced Tests more than 2 groups, categories, choices, factors, or levels Always right tail	goodness of fit (3.3) 25% of people are Republican, 35% are Democrats, and 40% are independents. The colors of Skittles are equally distributed. The 68-95-99.7 rule applies to a set of data. test for association (3.4) Race and political party are related. A person's religion and gender are related. A person's race is a factor in whether or not they were stopped by the police.	one-way ANOVA (4.4) $\mu_1=\mu_2=\mu_3$ Race is not a factor in a person's SAT score. two-way ANOVA Race and gender are related to a person's income. simple regression (5.x) $\beta_1=0$ A person's age is related to their income. multiple regression (6.x) $\beta_1=\beta_2=\beta_3=0$ The percent of students meeting education requirements is related to the money spent on education, attendance in class, and poverty levels.
Distribution	Chi-Square	F
Test Statistic	$\chi^2 = \sum \left(\dfrac{observed - expected}{\sqrt{expected}} \right)^2$	$F = \dfrac{Variance_1}{Variance_2} = \dfrac{MS_{source}}{MS_{error}}$
Minitab	Stat > Tables	Stat > ANOVA or Stat > Regression

The symbolic representation is for a typical null hypothesis and may not match the examples.