# BCPS Statistics 75% Rote Memorization Sheet

Discrete (**Counting**) Variables
N: Nominal=no order (e.g. gender)
O: Ordinal=Order, but no consistent difference in magnitude change (e.g. Trauma Score)

Continuous (**Measuring**) Variables
I: Interval=in order with consistent interval difference (e.g. temperature)
R: Ratio =Like Interval, but zero is the starting point (e.g. HR, BP)
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Appropriate Test for 2 Sample, Independent, Parallel Design Study with No Confounders
    (If there are >2 samples or confounders then the answer is usually ANOVA)

**Nominal**: Chi square ($X^2$) or Fisher's exact
**Ordinal**:  Wilcox Rank Sum or Mann Whitney U
**Continuous**: Student's t-test

SEM=SD/square root of N
NNT=1/ARR
ARR=Absolute Risk of Control - Absolute Risk of Active Group (**expressed as a <u>Percentage</u>**)
RRR=(Difference in 2 groups/Untreated group (**expressed as a <u>ratio</u> of 2 percentages)**

<span style="color:red">****Please read in detail the paper in the Stats Review Material titled, "Relative risk reduction, absolute risk reduction, and number needed to treat"</span>
Available at**: http://www.cmaj.ca/cgi/reprint/171/4/353.pdf**

RRR=Relative Risk Reduction
ARR=Absolute Risk Reduction
NNT=Number Needed to Treat
SEM=Standard Error of the Mean
SD=Standard Deviation (one SD=68% and two SD=95% of population)

Type I Error by definition, can only be considered if a statistical difference is found
Type II Error should be considered when a result is NOT significant

Regression Analysis is a **predictive** model where associations are derived
Correlation (**r**)quantifies the linear relationship between variables--strength of association
Coefficient of variation ($r^2$) explains **amount** of variation that is explained by **r**
Confidence Interval (CI) tells magnitude of difference between comparative groups
     A CI that includes zero is not statistically significant (p>0.05) *for prospective trials*
     All values contained in the CI are **statistically indistinguishable**
Odds Ratios are compared to baseline risk of one for comparison.
    >1=increased risk  (data range cannot include 1 or there is no difference)
    <1=decreased risk  (data range cannot include 1 or there is no difference)