Instructions: Print this sheet. You can write on both sides to add additional formulas and notes. Whatever formulas you add MUST fit on this sheet.

- $P(A \cap B) = P(A) \times P(B|A) \quad (dependent)$
- $P(A \cap B) = P(A) \times P(B) \quad (independent)$
- $P(A \cup B) = P(A) + P(B) - P(A \cap B)$
- $P(A \mid B) = \frac{P(A \cap B)}{P(B)}$
- $FPC = \sqrt{\frac{N-n}{N-1}}$ $\quad St\ Error = FPC \times \frac{s}{\sqrt{n}}$ or $St\ Error = \frac{s}{\sqrt{n}}$
- $z = \frac{x-\mu}{\sigma}$ or $z = \frac{x-\bar{x}}{s/\sqrt{n}}$

- $P(x) = {}_nC_x \cdot p^x \cdot (1-p)^{n-x} \quad \mu = \sum x \cdot p(x)$
- $variance = \sum[x^2 \cdot p(x)] - \mu^2 \quad \sigma = \sqrt{variance} = \sqrt{\sum[x^2 \cdot p(x)] - \mu^2}$

$Z = \frac{x-\mu}{\sigma}$ $\quad Z = \frac{\bar{x}-\mu}{\sigma/\sqrt{n}}$ $\quad SE(\bar{x}) = \frac{s}{\sqrt{n}} * fpc$ $\quad fpc = \sqrt{\frac{N-n}{N-1}}$

$F = \frac{R^2/1}{(1-R^2)/(n-2)}$ or $F = \frac{RSS/k}{(1-R^2)/(n-k-1)}$ $\quad s_b^2 = \frac{s_e^2}{\sum(X_i-\bar{X})^2}$ $\quad s_e^2 = \frac{ESS}{n-2}$ $\quad R^2 = \frac{RSS}{TSS}$

$RMSE = \sqrt{\frac{(\sum_{t=1}^{N} E_t^2)}{N}}$ $\quad n = \frac{4\sigma^2}{B^2}$ $\quad DW = \frac{\sum_{i=2}^{i=n}(\varepsilon_i - \varepsilon_{i-1})^2}{\sum_{i=1}^{n} \varepsilon_i{}^2}$

Size of Data Set (# Data)	Recommended # of bars in Histogram
9–16	4
17–32	5
33–64	6
65–128	7
129–256	8
257–512	9
513–1,024	10

$$Category\ Width = \frac{\max value - \min value}{\#\ categories\ (classes)}$$