AP Statistics / Mr. Hansen Name: _____
8/1/2015

Different Worlds!

HS Math World	**Statistics World**
Variability? What's that?	**VARIABILITY** (measured by standard deviation) is the central concept of the course.
Everything's sharp.	Everything's fuzzy.
We care about the value.	We care as much or more about the s.d.
We make a big deal about the difference between the = and $\approx$ symbols.	It's OK to use the = symbol all year long.
We emphasize axioms and the many results (theorems) that can be rigorously deduced from them.	Hardly anyone is concerned about axioms or rigor. The main theorems we care about are LOLN and CLT.
We're interested in proving things, 100%.	We're interested in proving things to a level of confidence (usually 95%).
If there are any parameters, we set them.	Parameters are unknown, and our job is to estimate them. (A parameter is a number that describes a population, e.g., a population mean or a population-wide probability of something occurring.)
Only one right answer	Answer**s** (pl.) based on judgment/rules of thumb
Light reading load, heavy algebra	Heavy reading load, light algebra
Lots of pencil-and-paper computation	Lots of calculator/computer work
Terminology/notation/tech skills: moderate	Terminology/notation/tech skills: advanced
Plug and chug (in HS, at least)	Think, think, think
Slope = $\frac{\Delta y}{\Delta x}$	Slope = something rather different (required on PSAT starting fall 2015, SAT in 2016)

Other "reserved words" (terms that mean something different from what you may think):

average	explanatory	regression
bar graph	hypothesis	replication
bias	normal	residual
cause & effect	odds	response
confidence	outlier	significance
correlation	parameter	skew (adj.)
distribution	probability	skew (v.)
error	prove	statistic
expected value	random	time series
experiment	range	variable