

# AP Statistics

## Vocabulary Ch. 7 & 8

### **Chapter 7**

Parameter

Statistic

Population distribution

Distribution of sample data

Sampling distribution

Unbiased estimator

Biased estimator

Variability

Sampling distribution of  $\hat{p}$

Mean  $\mu_{\hat{p}} = p$

Standard deviation  $\sigma_{\hat{p}} = \sqrt{\frac{p(1-p)}{n}}$

10% condition

Normal approximation  $np \geq 10$  and  $n(1-p) \geq 10$

Sampling distribution of  $\bar{x}$

Mean  $\mu_{\bar{x}} = \mu$

Standard deviation  $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

Central Limit Theorem

### **Chapter 8**

Point estimator

Point estimate

C% confidence interval

Confidence Level

“We are C% confident that the interval \_\_\_ to \_\_\_ captures the (parameter in context)”

Margin of error

Margin of error effected by confidence level and sample size

Conditions for CI for proportions: Random, 10% if sampling without replacement, Large count ( $np, n(1-p)$  both greater than 10)

Confidence interval for proportion  $\hat{p} \pm z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$

State, Plan, Do, Conclude

Margin of Error  $\geq z^* \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$

Standard error for sample proportion  $\sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$

Confidence interval for mean  $\bar{x} \pm t^* \frac{s}{\sqrt{n}}$

t-distribution

degrees of freedom (n-1)

standard error  $SE_{\bar{x}} = \frac{s}{\sqrt{n}}$

Conditions for CI for means: Random, 10% if sampling without replacement, Large Count (normal population,  $n > 30$  (CLT) or sample is approx. normal)

Margin of Error  $\geq t^* \frac{s}{\sqrt{n}}$