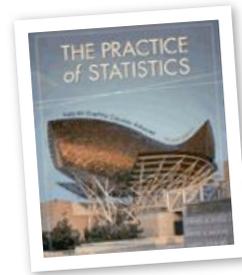


AP STATISTICS CHAPTER 9: SAMPLING DISTRIBUTIONS

"STATISTICS MAY BE DEFINED AS "A BODY OF METHODS FOR MAKING WISE DECISIONS IN THE FACE OF UNCERTAINTY. ""

~ W.A. WALLIS



Tentative Lesson Guide					
Date	Stats	Lesson	Assignment	Done	
Thu	1/11	9.1	Sampling Distributions	Rd 9.1 Do 1-4, 12-15	
Fri	1/12	9.2	Sample Proportions	Rd 9.2 Do 19-23	
Mon	1/15		No School	Organize Semester I Materials	
Tues	1/16	9.3	Sample Means	Rd 9.3 Do 45-52	
Wed	1/17	9.3	Central Limit Theorem	Practice Worksheet	
Thurs	1/18	Rev	Chapter 9 Review		
Fri	1/19	Exam	Exam Chapter 9	Online Quiz Due	
Mon	1/22	Rev	Semester I Review		
Tues	1/23	Rev	Semester I Review		
Wed	1/24	Final	FINAL EXAM	50 Question MC Exam	
Thu	1/25	Final	FINAL EXAM	50 Question MC Exam	

Note:

The purpose of this guide is to help you organize your studies for this chapter. The schedule and assignments may change slightly.

Keep your homework organized and refer to this when you turn in your assignments at the end of the chapter.



Class Website:

Be sure to log on to the class website for notes, worksheets, links to our text companion site, etc.

<http://web.mac.com/statsmonkey>

Don't forget to take your online quiz!. Be sure to enter my email address correctly!

<http://bcs.whfreeman.com/yates2e>

My email address is:

jmmolesky@isd194.k12.mn.us

Chapter 9 Objectives and Skills:

These are the expectations for this chapter. You should be able to answer these questions and perform these tasks accurately and thoroughly. Although this is not an exhaustive review sheet, it gives a good idea of the "big picture" skills that you should have after completing this chapter. The more thoroughly and accurately you can complete these tasks, the better your preparation.

📍 Sampling Distributions

- Parameter*: An index related to a population.
- Statistic*: An index that is related to a sample.
- Sampling distribution of a statistic*: The distribution of values of a statistic taken from all possible samples of a specific size.
- A statistic is unbiased if the mean of the sampling distribution is equal to the true value of the parameter being estimated.
- Note: A sample standard deviation is not an unbiased estimator of the population standard deviation.

📍 Sample Proportions

- If we choose an SRS of size n from a large population with population proportion p having some characteristic of interest, and if \hat{p} is the proportion of the sample having that characteristic, then
- The sampling distribution of \hat{p} is approximately normal. $N(p, \sqrt{p(1-p)/n})$
- It is reasonable to use the above statements when: $np > 10n$, $np > 10$, $n(1-p) > 10$

📍 Sample Means

THE CENTRAL LIMIT THEOREM

- Consider an SRS of size n from any population with mean μ and standard deviation s . When n is large ($n > 30$ and $pop > 10n$), the sampling distribution of \bar{x} has the following properties:
 - (a) it is approximately normal.
 - (b) the mean of the distribution is μ .
 - (c) the standard deviation of the distribution is s/\sqrt{n} , where s is the standard deviation of the population.

