Math	Packet for Students Entering Statistics	Name:
	nswers to these questions can be found in The Dabney (ISPN: 978-0809033591).	Cartoon Introduction to Statistics by Klein
These	e questions will be graded as a quiz grade.	
Intro	oduction (pp. 2 – 14)	
1.	What does statistics help you to do?	
2.	What are samples used for?	
Chap	oter 1 Numbers	
1.	What is one piece of advice that this chapter	gives?
2.	Give an example from p. 23 on how not know	wing all the information can be dangerous.
3.	What questions should you ask of numbers?	
Chap	oter 2 Random Raw Data	
1.	What is the strategy for learning about some	ething to do with the population?
2.	What two facts must we consider as we are v	vorking with samples?
	b.	
1.	What makes a good sample?	
2.	How do we avoid bias?	
Chap	oter 3 Sorting	
1.	What two different types of data are there?	

On p. 46 there is a picture of a histogram. Looking at the picture, try to describe what the x and y axis do in the question below.

2.	The y-axis always answers the question, "How?"
3.	When do we use histograms and when do we use boxplots?
	Histograms:
	Boxplot:
4.	According to this chapter, after you collect the data, the first thing you should do with it is
Cł	napter 4 Detective Work
1.	What is our ultimate goal in gathering data?
What	characteristics do we investigate about our data? List and write a main idea about each
	a.
	b.
	c.
	d.
Chap	ter 5 Monster Mistakes
1.	What must you remember when you use statistics to draw conclusions?
2.	What was the lurking variable in this chapter?
3.	What is the problem with the lurking variable?
Chap	ter 6 From Samples to Populations
1.	Why can't you look at an entire population? (This is not necessarily in the book)
2.	Fill in the blanks: We refer to qualities in a sample as and to qualities in populations as

3.	are the numbers we know and can use to calculate.	
4.	are the numbers we want to know, but can only make guesses about.	
Chapt	ter 7 The Central Limit Theorem	
1.		
2.	samples of all the same The distribution we are making is not of individuals, but of The groups are being sorted by	
3.	The groups are being sorted by See the picture on p. 94. Inside each bag are 50 Americans (see p. 92). The number on the outside is the average number of ounces of (see top of p. 92) of the 50 Americans in each bag.	
4.	The Normal Shape looks like a	
5.	No matter how the population is shaped, the random sample averages will be shaped.	
6.	The average of the averages (illustrated by the high peak on the normal curve) is the same as the average of the	
7.	There are two different Normal Curves (see the question above). Which one is narrower? (circle one): The Normal curve of all the individuals in the population or	
	The Normal curve of the average of the averages.	
8.	Draw a picture of a skewed population (use pg. 100):	
9.	If you took all the possible groupings of 50 subjects from the population you just drew, what would be the shape of the averages. Draw that shape below. Make sure that it is narrower than the population.	

Chapter 8 Probabilities

Page 107 The sampling distribution
1. Crazy Bill: What did he collect?
2. How many are in each can?
3. Look at middle of the curve where it is highestWhat is the average length of the worn in most of the cans?
Page 108
What is the standard deviation of the distribution
2. By the way, it is important to understand that (same answer as #1 is the average distance that the data is away from the mean.
Page 109 So what did we learn about the population???
1. The average length of the worms in the population is
Page 112
Rules about Probabilities
1. Rules about probabilities only apply to the
For example, if the probability of rolling a six on a dice is 1/6, it will only apply if you roll dice many, many times.
2. Every probability has a For example, if the probability of getting a six is 1/6, the probability of not getting a six 5/6. The probability and the "flip side" always add up to
3. Probabilities only work about

Page	115 (The Empirical Rule68 -95-99.7)
If we h	have a normal curve, we can figure out where the data lies.
1.	68% of it is within one of the mean.
2.	95% of it is within standard deviations of the mean.
3.	This sampling distribution is just theoretical. It does not really
Chap	ter 9 Inference
1.	Sometimes we want to guess where the average is location.
2.	We base our guess upon our average. (see p. 129).
3.	This is an estimated
Chapt	ter 10 Confidence
	What are we trying to do here??? We are trying to figure out where the average of the whole is located. We won't be 100% certain, but we can still make a good
3.	This is kind of confusing, so we will wait for most of it until class, but what we basically do is use our sampling distribution from the last chapter and say which numbers we think that the true average may fall between. We will never know for sure if our guess is correct, but our math helps us to be about 95% that our range contains the true average.
Chapt	ter 11 They Hate Us
	We will wait and see if they "hate us" during class!

1. For now, I just want you to know that you are pitting a new _____ against an old/dull _____.

Chapter 12 and Chapter 13

to see if the o page 100, we don't want i	supports the	old claim or the new one.					
Fell me the two stories in these chapters and who won							
Dull old Belief	exciting New Belief	Which one won out according to the evidence?					
o. 20 7							
Statistics tries to investigate and use the samples to search f truths about the overall Mrs. Sturgill wants to remember that no matter how hard we try to make an educated conclusion, there always a chance that our conclusions are Luckily, the of that are quite small.							
	Dull old Belief Dull old Belief Dull old Belief The to investigate It the overall er that no matter how hard ance that our conclusions a	stories in these chapters and who won Dull old Belief exciting New Belief Dull old Belief exciting New Belief and use to investigate and use to the overall er that no matter how hard we try to make an educance that our conclusions are					