Things to Remember (Take Notes)	Examples
Vocabulary Study vocabulary matching classwork.	List of terms: **Simple Random Sample**　　　　**Statistic** **Systematic Random Sample**　　**Processing Error** **Stratified Random Sample**　　　**Question-Wording Bias** **Voluntary Response**　　　　　**Random Sampling Error** **Convenience**　　　　　　　　**Response Error** **Bias**　　　　　　　　　　　　**Sample** **Probability Sample**　　　　　**Population** **Margin of Error**　　　　　　　**Sampling Frame** **Nonsampling Error**　　　　　**Undercoverage** **Parameter**　　　　　　　　　**Variability**

1) 500 teenagers in Wisconsin are surveyed on their video game habits.
a. What is the population?　　　　　　　　b. What is the sample?

Wisconsin teenagers　　　　　　　**500 teenagers**

2) Dr. Giles wants to do a survey of seniors about senior project. The day he decides to conduct his survey happens to be senior skip day. What type of sampling error will occur if he continues with his survey?

undercoverage

3) A subject lies about his grade on his unit 4 test. What type of sampling error will occur?

response error

4) A teacher wants to find out the average amount of hours a week a high school student works. This teacher finds her sample by asking the first 25 students to walk into class that day. What type of sampling method is used?

convenience

5) A high school senior wants to take a survey of how many schools their teachers have worked at. They decide to randomly choose a teacher from each subject area (i.e. math, science, English). What type of sampling method is this?

Stratified

Table of Random Digits	Use the following line from table B to answer the questions below:
	76432　59340　90342　54311　39072　21205　84321　04983

6) You need to choose a sample of 5 people out of population of 85.
a) Explain in detail how you would choose your sample.

Label each student 01 to 85
use table B to choose two digits at a time,
only pick numbers that are below 85 until
you have a sample of five numbers.

b) Find the sample using the line above.

76, 43, 25, 40, 34

Biased Samples	7) Which two sampling methods are biased? Explain why each method is biased. voluntary response—people choose to answer the survey therefore not everyone will answer convenience—only sampling those easiest to reach, not getting the whole view of the population
Parameter and Statistic	8) Parameter describes the **population** . Statistic describes the **sample** 9) True or False: It is easy to find a parameter. False 10) A recent study found that 65% of California residents support an increase on the minimum wage. A sample of 500 californias found that 56% of residents support this increase. Define the parameter and the statistic. parameter = 65% statistic = 56%
Margin of Error	11) What is the formula for calculatin margin of error? $$\frac{1}{\sqrt{n}} \quad n = \text{sample size}$$ 12) After conducting a survey of 500 people, Billy finds that 27% are statisfied with the school lunches in the cafeteria. a) How many people are staisfied with school lunch? $500(0.27) = 135$ people b) Calculate the margin of error for this survey. $$\frac{1}{\sqrt{500}} = 0.04 \quad \pm 4\%$$ $27 - 4 = 23$ $27 + 4 = 31$ c) Using a 95% confidence level, write a confidence statement for this survey. I am 95% confident, that between 23% to 31% of all people are satisfied with school lunch.
Hypothesis Statement	A local grocery store claims that they sell 250 turkeys during the week of Thanksgiving. One of their employees counts the amount of turkeys that are sold during this week and finds that they sold 325 turkeys. Assume a standard deviation of 25 turkeys. Write a null and alternative hypothesis and find a p-value in order to test this claim. Do we have enough evidence to reject H_0? Assume $\alpha = 0.05$. H_0: The average amount of turkeys sold is 250. $$\mu = 250$$ H_A: The average amount of turkeys sold is more than 250. $$\mu > 250$$ ① $$z = \frac{325 - 250}{25} = 3$$ ② p-value $1 - 0.9987 = 0.0013$ ③ compare to α $0.0013 < 0.05$ reject H_0

*We have enough evidence to show that the grocery store sells more than 250 turkeys.