**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Instructor:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Chapter 7 Written HW**

**Learning Objectives:**

**Identify and determine which type of sampling is being conducted given a contextual data**

**collection situation.**

**Determine the difference between a parameter and a statistic and identify when each measure would be used appropriately.**

**Use the Central Limit Theorem to find z-scores and probabilities given in a contextual situation.**

**Part A: Key Vocabulary**

Use your textbook and any additional online resources to learn the vocabulary terms from chapter 7 listed below. Please define these terms and in your own words.

**Central Limit Theorem**

**Parameter**

**Population**

**Sample**

**Sampling Error**

**Standard Error of the mean**

**Statistic**

**Convenience Sample**

**Random Sample**

**Systematic Sample**

**Stratified Sample**

**Cluster Sample**

**Part B**: For the following portions of the homework please refer to your textbook at the end of Chapter 7 pgs 232-236.

Problem #1 Complete parts a, b, c, d, & e in the space provided below.

Problem #2 - Complete parts a & b in the space provided below.

Problem #9 - Complete parts a, b, c, & d in the space provided below.

Problem #10 – Complete parts a & b in the space provided below.

PART C: Complete the following two problems.

C1) The average yearly Medicare Hospital Insurance benefit per person was $4064 in a recent year.

a. If the benefits are normally distributed with a standard deviation of $460, find the probability that the mean benefit for a random sample of 20 patients is less than $3800.



b. Explain the process you used to determine your answer.

C2) Create your own unique example of each of the following sampling types. (We covered these in the Ch 7 Sampling Pwpt (2 slide only) – recall this is the card activity that we did in class to illustrate how each sampling type is different. **DO NOT USE A DECK OF CARDS AS YOUR EXAMPLES!**

Note: Each Soc 220 student should have **their own unique** examples – when I read these – there should be NO DUPLICATES!

**Convenience Sample Example**

**Random Sample Example**

**Systematic Sample Example**

**Stratified Sample Example**

**Cluster Sample Example**