Quantitative Skills & Reasoning - Math 1001



Dr. Bob Brown, Jr. Dean Emeritus Professor Emeritus East Georgia State College Zoom Video Conference 9-24-2019

- 1. Test 2 Thursday & Friday 26th/27th
- 2. Understand Numerical & Categorical Data
- 3. Identify Sampling Methods
- 4. Understand & Interpret Graphs/Charts/Frequency Tables
- 5. Calculate Five Number Summary of Data Sample (15-25 points)
- 6. Calculate Standard Deviation of Data Sample (15-25 points)

Quantitative data

Height Weight Income University size Group size Self-efficacy test score Percentage of lectures attended Clinical skills performance Number of errors Age Categorical data

Gender Religion Method of treatment Type of teaching approach Marital status Qualifications Native language Type of instruction Problem solving strategy used Social class Convenience Sampling Cluster Sampling Systematic Sampling Simple Random Sampling Stratified Sampling

Stratified sampling

In stratified sampling, a population is divided into a number of subgroups (or strata). Random samples are then taken from each subgroup with sample sizes proportional to the size of the subgroup in the population.

Cluster sampling

In cluster sampling, the population is divided into subgroups (clusters), and a set of subgroups are selected to be in the sample

In **stratified sampling**, the **sampling** is done on elements within each stratum. In **stratified sampling**, a random **sample** is drawn from each of the strata, whereas in **cluster sampling** only the selected **clusters** are **sampled**. A common motivation of **cluster sampling** is to reduce costs by increasing **sampling** efficiency.





Students With Birthdays in Nov, Dec, Jan_____Students With Birthdays in Jun, Jul, Aug_____



Weight

Interval	Frequency	Percent	Cumulative
120 - 134	4		
135 - 149	14		
150 - 164	16		
165 - 179	28		
180 - 194	12		
195 - 209	8		
210 - 224	7		
225 - 239	6		
240 - 254	2		
255 - 269	3		



Below is a table of the final exam scores from a class of 40 statistics students. Use the table to answer the following questions.

Statistics Final Exam Scores 86 91 79 77 85 81 73 62 84 73 96 79 84 93 89 90 72 74 70 88 67 99 78 82 73 95 83 85 98 54 87 85 84 86 84 80 90 77 84 73

Calculate the Five Number Summary and The Standard Deviation

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Calculate the Five Number Summary and The Standard Deviation

 $\begin{array}{l} \text{Minimum} = 54\\ \text{First Quartile} = 75.5\\ \text{Median} = 84\\ \text{Third Quartile} = 87.5\\ \text{Maximum} = 99\\ \text{Sx} = 9.55 \end{array}$

Mean = 81.75