Statistics (I) Quiz 1-Date: October-16-20117

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1. Give two example of a
   1. qualitative variable. (b) discrete, quantitative variable ; (c) continuous, quantitative variable.
2. ( ) Which of the following correctly describes the relationship between a sample and a population?
3. A sample is a group of populations that are subject to observation.
4. A population is a group of samples that may or may not be included in a study.
5. A sample is a group of subjects selected from a population to be studied.
6. A population and a sample are not related.
7. The data show the maximum wind speeds in miles per hour recorded for 40 cities. (§2-1,#17,p.52)
8. What is the rage of the data?
9. What is the width if the data set is divided into 6 classes?
10. Find the class limits of each group. Use the minimum as the starting value of the first class.
11. Construct a frequency distribution using 6 classes.

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| 59 | 78 | 62 | 72 | 67 | 76 | 92 | 77 | 64 | 83 | |  |  |  | | --- | --- | --- | | Class limits | Tally | Frequency | |  |  |  | |  |  |  | |  |  |  | |  |  |  | |  |  |  | |
| 68 | 69 | 76 | 72 | 85 | 64 | 70 | 77 | 74 | 72 |
| 64 | 70 | 67 | 75 | 75 | 78 | 75 | 71 | 72 | 93 |
| 53 | 67 | 43 | 76 | 59 | 87 | 53 | 77 | 70 | 63 |

1. A survey was taken on how much trust people place in the information they read on the Internet.
2. Construct a categorical frequency distribution for the data. (§2-1,#14,p.52)
3. Draw a pie graph for the data and analyze the result.

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| M | M | M | A | H | M | S | M | H | M | A = trust in all that they read |
| S | M | M | M | M | A | M | M | A | M | M = trust in most of what they read |
| M | M | H | S | M | M | H | M | H | M | H = trust in about one-half of what they read |
| A | M | M | M | H | M | M | M | M | M | S = trust in a small portion of what they read |

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| Category | Tally | Frequency |  |
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1. The histogram of a data set is shown here. Construct a frequency distribution; include class limits, class frequencies, midpoints, and cumulative frequencies. (§2-2,#19,p.68)

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| Class limits | Class boundary | Class midpoint | Frequency | Cumulative frequencies |  |
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1. An instructor grade exams, 20%; term paper, 30%; final exam, 50%. A student had grades of 83, 72, and 90, respectively, for exams, term paper, and final exam. Find the student’s final average. Use the weighted mean.

(§3-1,#27,p.125)

1. The amount spent (in billions of dollars) for ads online is shown. Draw a time series graph and comment on the trend. (§2-3,#5,p.91)

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| Year | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
| Amount | 19.72 | 31.53 | 43.83 | 53.29 | 61.14 | 69.04 |

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| 1. A random sample of 30 states shows the number of specialty coffee shops for a specific company. Find the mean for the data. (§3-1,#19,p.124) | Class boundaries | Frequency |
| 0.5-19.5 | 4 |
| 19.5-38.5 | 10 |
| 38.5-57.5 | 15 |
| 57.5-76.5 | 8 |
| 76.5-95.5 | 3 |

1. The ages of 6 selected dogs in a pet shelter are shown. Find the mean, median, variance, and standard deviation of the following data. **Data:** 7, 6, 2, 9, 4, 8.

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| 1. For 100 randomly selected college applicants, the following frequency distribution for entrance exam scores was obtained. (§2-2,#1,p.65) 2. Find the class boundary and midpoint for each group. 3. Construct a histogram, frequency polygon, and ogive for the data. 4. Applicants who score above 107 need not enroll in a summer developmental program. How many students do not have to enroll in the developmental program? | Class limits | Class boundary | Class midpoint | Frequency |
| 90-98 |  |  | 6 |
| 99-107 |  |  | 22 |
| 108-116 |  |  | 40 |
| 117-125 |  |  | 23 |
| 126-134 |  |  | 9 |