Psyc 122 - Statistics

Practice Midterm #1

1) The table below presents the difference between the actual high temperature in Champaign/Urbana for the last week, and the predicted high temperatures by two local meteorologists - Judy Fraser (WCIA) and Jerome Richey (WICD).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Sun | Mon | Tues | Wed | Thurs | Fri | Sat |
| Judy’s Error | 0 | 13 | 0 | 19 | 17 | 14 | 0 |
| Jerome’s Error | 5 | 8 | 7 | 0 | 12 | 7 | 3 |

a) Find the mean, median, and mode and standard deviation for each meteorologist’s error. (1 pt each)

b) In a statistical sense, who is the more **reliable** meteorologist? Explain. (3 pts)

2) According to my informal survey, on average, y’all eat 1.4 servings of fruit per day. For each of the situations described below, determine whether that value would be considered a parameter, or a statistic. Be sure to explain your answer. (3 pts each)

a) I call my mother on the phone and say, "Did you know that – on average – the **students in my stats class this semester** eat only 1.4 pieces of fruit per day?"

b) Because of my ground-breaking fruit consumption research, I appear on the Today Show. I tell Savannah that, "According to my research, **the average college student** eats only 1.4 pieces of fruit per day." She replies, "How interesting! Is there no limit to your brilliance?"

3) A study was conducted to determine if wealth influenced generosity. People were approached in a parking lot and asked to donate to a local charity. The amount they agreed to donate was recorded as was the make and model of their car. The values of the cars were then used to determine if there was a relationship between car value and donation amount. (4 pts each)

1. Was the design experimental or observational?
2. What was the IV/predictor variable?
3. What was the DV?
4. Were the IV/predictor variable and DV discrete or continuous?
5. What was the scale of measurement for both the IV/predictor variable and the DV?

4) The number of slices of pepperoni on a Sibie’s pepperoni pizza has a mean of 25 and a variance of 4. Let’s assume that the distribution of pepperoni slices is normally distributed. How many pepperoni pizzas will have between 21 and 29 slices of pepperoni? (3 pts)

5) Find the value of z, such that the area between z and –1.58 =

a) .8858 (3 pts)

b) .1323 (3 pts)

c) .0522 (3 pts)

6) The data below lists the number of assignments turned in late for each of the classes that I have taught at Amherst.

|  |  |
| --- | --- |
| # of late assignments | Frequency |
| 1 | 4 |
| 2 | 9 |
| 3 | 11 |
| 4 | 14 |
| 5 | 9 |
| 6 | 7 |
| 7 | 6 |

1. Find the mean, median, mode, variance, and standard deviation. The sum of x = 240; the sum of x2 = 1134.
2. Are the data positively-skewed, negatively-skewed or symmetrical?