Name : _____

Math 113: Classroom Activity 2 10 pts

Instructions:

Psychology has many tools used to help people learn about themselves. One of these is a personality questionnaire called the Myers Briggs Type Indicator. We are going to try to examine the aspect of this test that measures the difference between the sensing (S) and intuition (N) preferences. These deal with how you prefer to take in information.

1	2	3	4	5	6	7
all of the time	most of the time	some of the time	no preference	some of the time	most of the time	all of the time

You will be given seven word pairs with opposite meanings. Think of a number line between 1 and 7 as being a continuum and pick the number that most closely represents how you prefer to gather information. 1 means you always prefer the word on the left side and 7 means you always prefer the word on the right side. For example, if you prefer to deal with fact most of the time, you would record a 2. If you prefer to deal with conceptual issues, but only some of the time, you would record a 5. If you are in the middle between using things and changing things, then record a 4.

1.	 fact	1	7	fantasy
2.	 specific	1	7	general
3.	 present	1	7	future
4.	 practicality	1	7	ingenuity
5.	 perspiration	1	7	inspiration
6.	 realistic	1	7	conceptual
7.	 using	1	7	changing

1. Record your response for each question in the table below.

question	1	2	3	4	5	6	7
response							

2. Copy your responses onto three slips of paper and give to the instructor to give to other students. Gather three slips from other students and use that information to finish the activity.

3. For each slip of paper, write the person's identifier and responses onto your paper. Then find differences between their responses and yours (their answer minus yours). Square those differences and add them up.

question	1	2	3	4	5	6	7	Total
my values								
difference								
squared								
difference								
squared								
difference								
squared								

4. The sum of the squared differences is called a variation. The person with the lowest variation is the person who is most like you in how they take in information. Which person is most like you?

What we've done so far is to compare each person's responses to yours. This is useful for showing how close two sets of responses are to each other and we'll come back to this towards the end of the semester. Right now, we're actually concerned with finding out how close to the mean a group of values is.

For the rest of this activity, we'll be treating each person's responses separately instead of comparing them to yours.

5. Record your responses for each question as *x* in the table below. Your mean score is _____.

#	1	2	3	4	5	6	7	Total
x								
$x - \overline{x}$								
$(x-\overline{x})^2$								

6. Repeat the same process with the first person's scores. Their mean score is

#	1	2	3	4	5	6	7	Total
x								
$x - \overline{x}$								
$(x-\overline{x})^2$								

7. Record the second person's values in the table as x.

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#	1	2	3	4	5	6	7	Total
x								
x^2								

8. Repeat the process with the third person's scores.

#	1	2	3	4	5	6	7	Total
x								
x^2								

9. Summarize each person's scores.

There are two formulas we'll use for the variation: $Variation = \sum (x - \overline{x})^2$ and the shortcut formula $Variation = \sum x^2 - (\sum x)^2 / n$. Note that in the shortcut formula, the division applies only to the second term. To find the variance, use the formula Variance = Variation/df, where df = n - 1. The standard deviation is the square root of the variance.

Person	Mean	Median	Variation	Variance	Standard Deviation
Me					
1.					
2.					
3.					

- 10. The mean and the median are measures of center. Use the mean to determine which of the four people is most balanced and most extreme in their preferences.
- 11. The variation, variance, and standard deviation are all measures of spread or consistency. The smaller the number, the more consistent that person is. The variation doesn't take into account the number of values (although that won't matter here because everyone had 7 questions). The variance fixes that problem, but has another one the units are squared. The standard deviation takes the square root of the variance and so it eliminates both problems. We usually look at the standard deviations to determine who is the most consistent and least consistent in their preferences.

For more information, search the Web for "Myers Briggs". If you would like to take the complete test and find all of your type preferences, see a counselor in the student services area.