

Name: \_\_\_\_\_

**AP Statistics Ch 13 Graded Assignment**

1. It is common folk wisdom that drinking cranberry juice can help prevent urinary tract infections in women. In 2001, the British Medical Journal reported the results of a Finnish study in which three groups of 50 women were monitored for these infections over 6 months. One group drank cranberry juice daily. Another group drank a lactobacillus drink, and the third drank neither of these beverages, serving as the control group. In the control group, 18 women developed at least one infection compared with 20 who drank the lactobacillus drink and only 8 of those who drank the cranberry juice. Does this study provide supporting evidence for the value of cranberry juice in warding off urinary tract infections?

2. Some people believe that a full moon elicits unusual behavior in people. The table shows the number of arrests made in a small town during weeks of six full moons and six other randomly selected weeks during the same year. Is there evidence of a difference in the types of illegal activity that takes place?

<i>Offense</i>	<i>full moon</i>	<i>not full moon</i>
<i>violent (murder, rape, assault, etc)</i>	2	3
<i>property (vandalism, burglary)</i>	17	21
<i>Drugs and alcohol related</i>	27	19
<i>domestic abuse</i>	11	14
<i>other offenses</i>	9	6

3. Market researchers know that background music can influence the mood and purchasing behavior of customers. One study in a supermarket in Northern Ireland compared three treatments: no music, French accordion music, and Italian string music. Under each condition, the researchers recorded the numbers of bottles of French, Italian, and other wine purchased. Is there a relationship between the type of wine purchased and the type of music that is playing?

	<i>Type of Music</i>			
<i>Wine</i>	<i>None</i>	<i>French</i>	<i>Italian</i>	<i>Total</i>
<i>French</i>	30	39	30	99
<i>Italian</i>	11	1	19	31
<i>Other</i>	43	35	35	113
<i>Total</i>	84	75	84	243

4. A researcher wanted to determine whether pedestrian deaths were uniformly distributed over the days of the week. She randomly selected 300 pedestrian deaths, recorded the day of the week on which the death occurred, and obtained the following results (data is from Insurance Institute of Highway Safety).

Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat
# of fatalities	30	40	30	40	41	49	61

Are pedestrian fatalities equally likely on the days of the week?

5. An urban economist wants to determine whether the region of the US a resident lives in is associated with their general level of satisfaction with life. He randomly selects 150 residents 18 years of age or older from 4 geographic regions of the US: East, South, Midwest, and West. He asks: “are you satisfied or dissatisfied with the way things are going in the United States at this time?” Is there a difference in people’s responses based on their geographic area?

Satisfaction	East	South	Midwest	West
Satisfied	77	84	93	83
Dissatisfied	73	66	57	67