Worksheet 8: Statistics II

1. Write the equation for calculating a confidence interval and identify the meaning of each of the terms.

2. What is the meaning of a 95% confidence interval?

3. How does the range of a confidence interval change as the confidence increases?

4. What is the Student's t test? Outline the process for using the Student's t test.

5. A car company claims that their Super Spiffy Sedan averages 31 mpg. You randomly select 8 Super Spiffies from local car dealerships and test their gas mileage under similar conditions. You get the following MPG scores: 30, 28, 32, 26, 33, 25, 28, 30. Does the actual gas mileage for these cars deviate significantly from 31 at the 95% confidence level?

6. Consider the gain in weight of 19 female rats between 28 and 84 days after birth. 12 were fed on a high protein diet and 7 on a low protein diet. Determine if the two groups of rats had statistically different amounts of weight gain during the period of the experiment.

High protein (g)	Low protein (g)
134	70
146	118
104	101
119	85
124	107
161	132
107	94
83	
113	
129	
97	
123	