Use our class data to do the following problems. Be neat and complete. Do all of your work on separate paper. Due at or before the Final Exam.

1. (Ch.9) Separate our class data into a sample of men and a sample of women. Test the claim that the mean age for men at Cabrillo is less than the mean age of women at Cabrillo. Assume both populations (men and women) have normally distributed ages. Use a 5% significance level.

2. (Ch.10) We collected data on how a student traveled to campus, how long it took and how many miles they live from campus. For the entire class, make a scatterplot of the number of minutes to get to school (x, from question 17) and the number of miles to campus (y, from question 18). What is r? What is the equation of the regression line? Plot it on your scatterplot.

Now, do the same thing, but for only the people who drive to school. They are classified as “d” or “da” in the responses to question 7. Your sample will not be all of the students, and you are running the analysis on questions 17 and 18. You will need to make a scatterplot, find the value of r, find the equation of the regression line and show its graph on the scatterplot.

Which of the two methods has stronger correlation? Why do you think that happened?

3. (Ch.11) A research study from 1990 classified eye color into 5 categories. The study produced the following breakdown of eye colors:
   - 32% blue/grey irises
   - 15% blue/grey/green irises with brown/yellow specks
   - 12% green/light brown irises with minimal specks
   - 16% brown irises with specks
   - 25% dark brown irises

   For our purposes, let’s condense this to the following (since this was an open response question on our student questionnaire):

   **brown 41% blue 47% green/hazel ("other") 12%**

   Complete the following table using our (observed) class data (mix M and F)

<table>
<thead>
<tr>
<th>Eye color</th>
<th>Brown</th>
<th>Blue</th>
<th>Green/Hazel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green/Hazel</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Test at the 1% significance level whether our class distribution of eye color matches the distribution of the study. Assume any needed conditions are met. **Hint:** Convert the given percentages into “expected” outcomes by multiplying each percentage by the sample size of our class.