1. Suppose that a study measures how far each student sits from the front of the classroom and also records the student’s final exam score. If better students tend to sit closer to the front, would the correlation between distance and exam score be positive, negative, or close to zero? Explain briefly.

2. Suppose that you record the daily high temperature and the daily amount of ice cream sold by an ice cream vendor at your favorite beach this summer, starting on Memorial Day weekend and ending on Labor Day weekend. Would you expect to find a positive or negative correlation between these variables? Explain briefly.

3. Suppose that every student in this class scored 5 points lower on the second exam than on the first exam. Consider the correlation coefficient between first exam score and second exam score. What would the value of this correlation coefficient be? Explain briefly. [Hint: You might draw a scatterplot of hypothetical data that fit the description.]

The following scatterplot pertains to the data on marriage ages that we analyzed in class recently:

4. Make an educated guess for the value of the correlation coefficient between husband’s age and wife’s age.

5. Consider the couple in their 70s. Suppose that this 73-year-old woman had married a 22-year-old man instead of a 71-year-old man. What impact would this have had on the correlation coefficient? Explain your answer.