Mrs. Daniel- AP Stats
3.1 WS

1. The table below shows data for 13 students in a statistics class. Each member of the class ran a 40-yard sprint and then did a long jump (with a running start).

Sprint Time (s)	5.41	5.05	9.49	8.09	7.01	7.17	6.83	6.73	8.01	5.68	5.78	6.31	6.04
Long Jump Distance (in)	171	184	48	151	90	65	94	78	71	130	173	143	141

A. Create and label a scatterplot of the data:

B. Describe and interpret the scatterplot above.

C. What is the correlation coefficient? What does it mean?

2. A student wonders if tall women tend to date taller men than do short women. She measures herself, her dormitory roommate, and the women in the adjoining rooms. Then she measures the next man each woman dates. Here are the data (heights in inches):

Women (x):	66	64	66	65	70	65
Men (y):	72	68	70	68	71	65

A. How would r change if all the men were 6 inches shorter than the heights given in the table? Does the correlation tell us if women tend to date men taller than themselves?

B. If heights were measured in centimeters rather than inches, how would the correlation change? (There are 2.54 centimeters in an inch.)

3. Consider each of the following relationships:

A. the heights of fathers and the heights of their adult sons
B. the heights of husbands and the heights of their wives
C. the heights of women at age 4 and their heights at age 18.

Rank the correlations between these pairs of variables from highest to lowest. Explain your reasoning.