CORRELATION

TEXT: 12.1, 12.2, 12.3,

LAST NAME	FIRST NAME	DATE

1 (4 points)**.** What do you think is the most likely association between the given variables? Choose from *positive*, *negative*, or *no association*.

(a) Number of handgun licenses in a city **versus** the number of accidental shootings per year.

(b) The temperature of a coffee cup **versus** the time elapsed since it was served, if the coffee is served hot on a cold autumn day.

(c) The height of a person **versus** the number of coins carried in one's pockets.

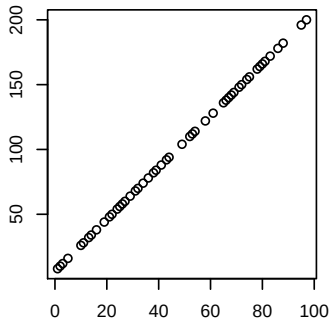
(d) The number of pages in a book **versus** the number of pictures in the book.

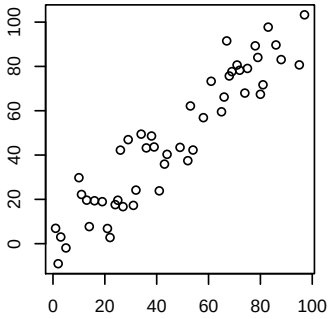
(e) The amount of time a person has to wait to be seen by a doctor **versus** the level of customer satisfaction.

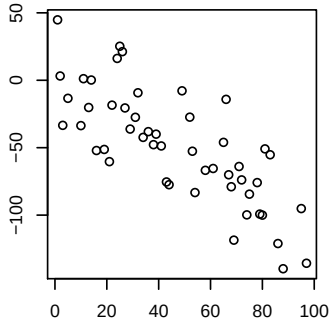
(f) The age of an oak tree **versus** its girth, which is the distance around the trunk measured a few feet off the ground.

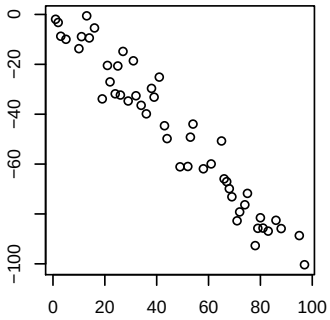
2 (6 points)**.** Match each graph to what is most likely a corresponding correlation coefficient. Correlation coefficients to choose from are:

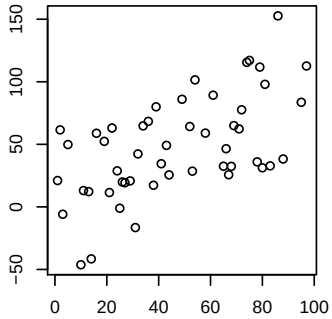
-0.6 $\quad$ 0 $\quad$ 1 $\quad$ 0.9 $\quad$ -0.95 $\quad$ 0.5

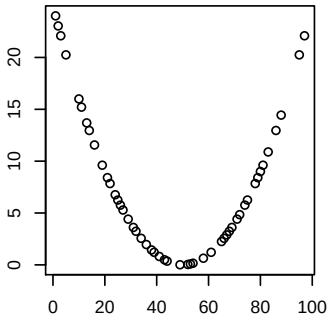












3 (4 points)**.** Consider the following sample of paired data, where x is the number of people assigned to the project and y is the number of hours taken to complete the project.

x	2	5	6	10	20
y	40	24	25	18	15

(a) Find the correlation coefficient r.

(b) Find the equation of the linear regression line and state it in the slope-intercept form.

(c) Use your equation to predict the number of hours needed to complete a project when 24 people are assigned.

(d) Plot the data set and the line of best fit.