Name:_____

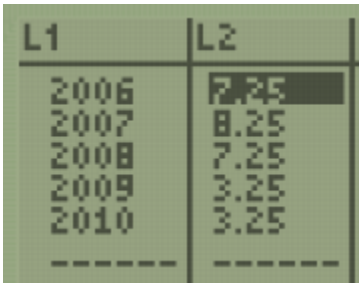
4-6 *Regression and Median-Fit Lines*

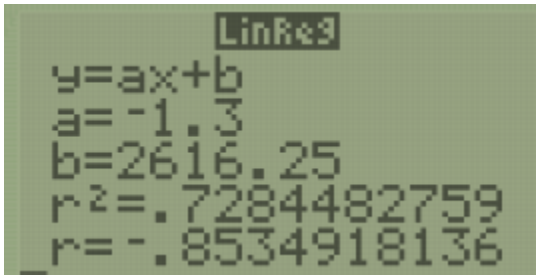
1)Write an equation of the regression line for the data in each table below. Then find the correlation coefficient.

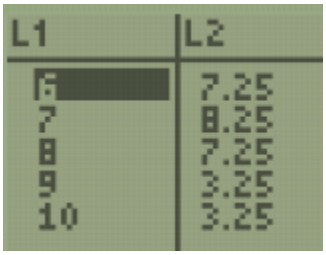
Below is a table showing the U.S. Federal Reserve's prime interest rate on January 1 of various years.

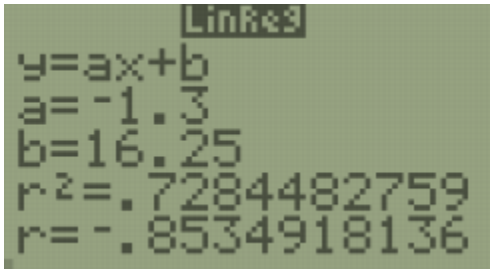
Year	2006	2007	2008	2009	2010
Prime Rate (percent)	7.25	8.25	7.25	3.25	3.25

Source: Federal Reserve Board









Let x represent years since 2006; y = -1.3x + 16.25; r = -0.853

2) **Write an equation of the regression line for the data in each table below. Then find the correlation coefficient.**

Below is a table showing the estimated population of Arizona in millions on July 1st of various years.

Year	2001	2002	2003	2004	2005	2006
Population	5.30	5.44	5.58	5.74	5.94	6.17

Source: U.S. Census Bureau

a. Find an equation for the median-fit line.

y = 0.171x + 5.267

b. Predict the population of Arizona in 2009.

about 6.63 million; extrapolation

3) **Write an equation of the regression line for the data in each table below. Then find the correlation coefficient.**

Below is a table showing the number of students enrolled at Happy Days Preschool in the given years.

Year	2002	2004	2006	2008	2010
Students	130	168	184	201	234

a. Find an equation for the median-fit line.

y = 11.42x + 115

b. Estimate how many students were enrolled in 2007.

about 195 students; interpolation