1.   The mean value for the critical reading and math sections of the SAT exam for nine schools in Ontario County are listed in the table.

Math	530	551	521	522	537	511	516	537	566
Critical Reading	530	529	512	518	526	500	504	515	543

   a. Draw a scatterplot and describe the correlation between the data.

   b. Find the linear regression formula for the data and draw the line of best fit.

   c. Find the value of the correlation coefficient.

   d. Graph the residual plot.

   e. If a student scores 535 on the Math section, predict the value this student will earn on the Critical Reading section.

2.   Jacob joined an exercise program to try to lose weight. Each month he records the number of months in the program and his weight at the end of that month. His record for the first twelve months is shown below.

Month	1	2	3	4	5	6	7	8	9	10	11	12
Weight	248	242	237	228	222	216	213	206	197	193	185	178

   a. Draw a scatterplot and describe the correlation between the data.

   b. Find the linear regression formula for the data and draw the line of best fit.

   c. Find the value of the correlation coefficient.

   d. Graph the residual plot.

   e. If the pattern continues, what weight could Jacob expect to reach by the end of the 15th month?

3.   The table below represents the residuals for a line of best fit.

x	1	3	4	4	5	6	7	9	9
Residual	-2	1	-1	4	2	-3	-4	3	0

a. Plot these residuals on the graph below.
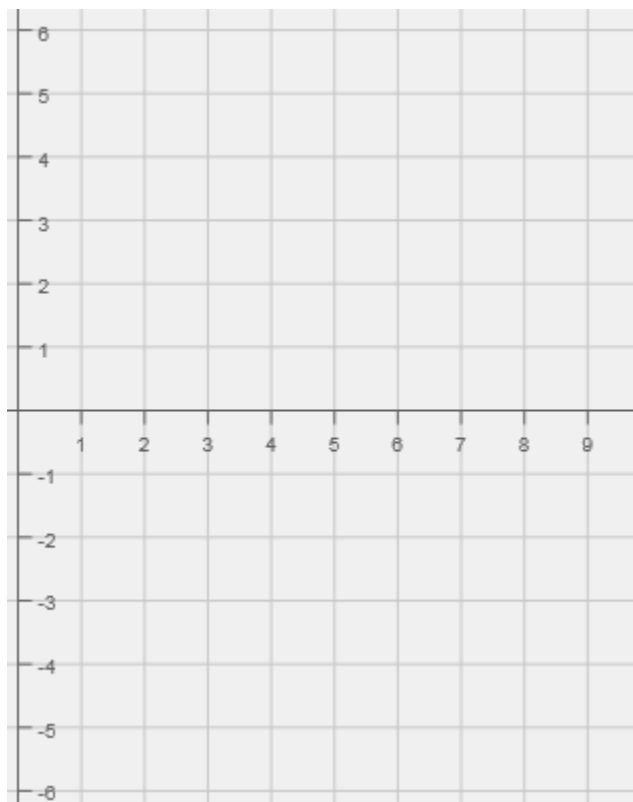
b. Using the plot, assess the fit of the line for the residuals and justify your answer.