Name: _____ Date: _____ Per: _____

Chapter 7: Practice with Linear Regression #1

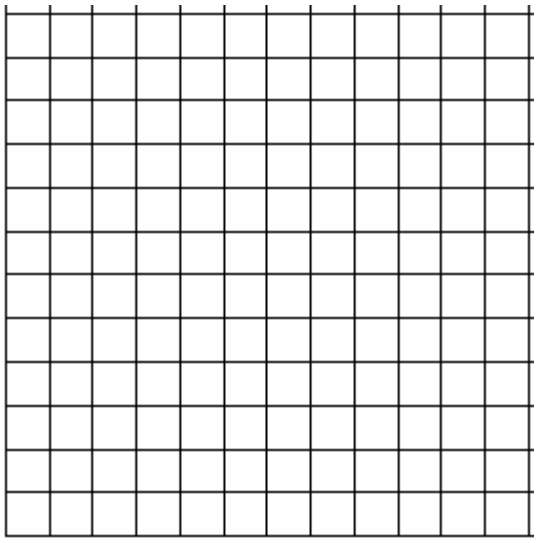
1) The accompanying table shows the enrollment of a preschool from 1980 through 2000.

a) Create a scatter plot. Describe the direction, form, and strength.

b) Write a linear regression equation to model the data in the table. Use it to predict enrollment in 2016.

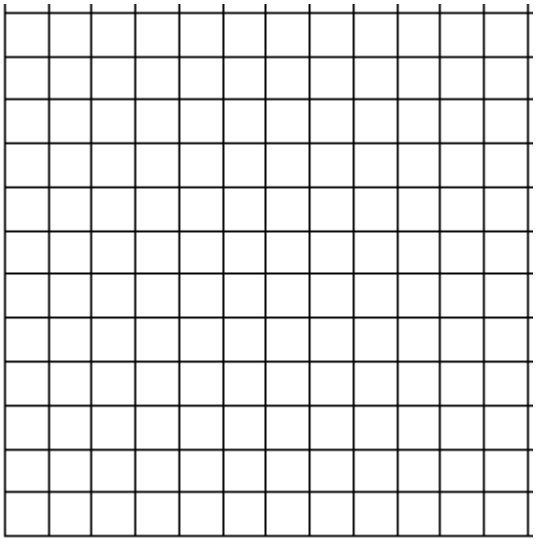
c) Identify the correlation coefficient. Interpret what this tells you about the data.

Year (x)	Enrollment (y)
1980	14
1985	20
1990	22
1995	28
2000	37



2) A factory is producing and stockpiling metal sheets to be shipped to an automobile manufacturing plant. The factory ships only when there is a minimum of 2,050 sheets in stock. The accompanying table shows the day, x, and the number of sheets in stock, f(x).

Day (x)	Sheets in Stock ($f(x)$)
1	860
2	930
3	1000
4	1150
5	1200
6	1360



a) Create a scatter plot. Describe the direction, form, and strength.

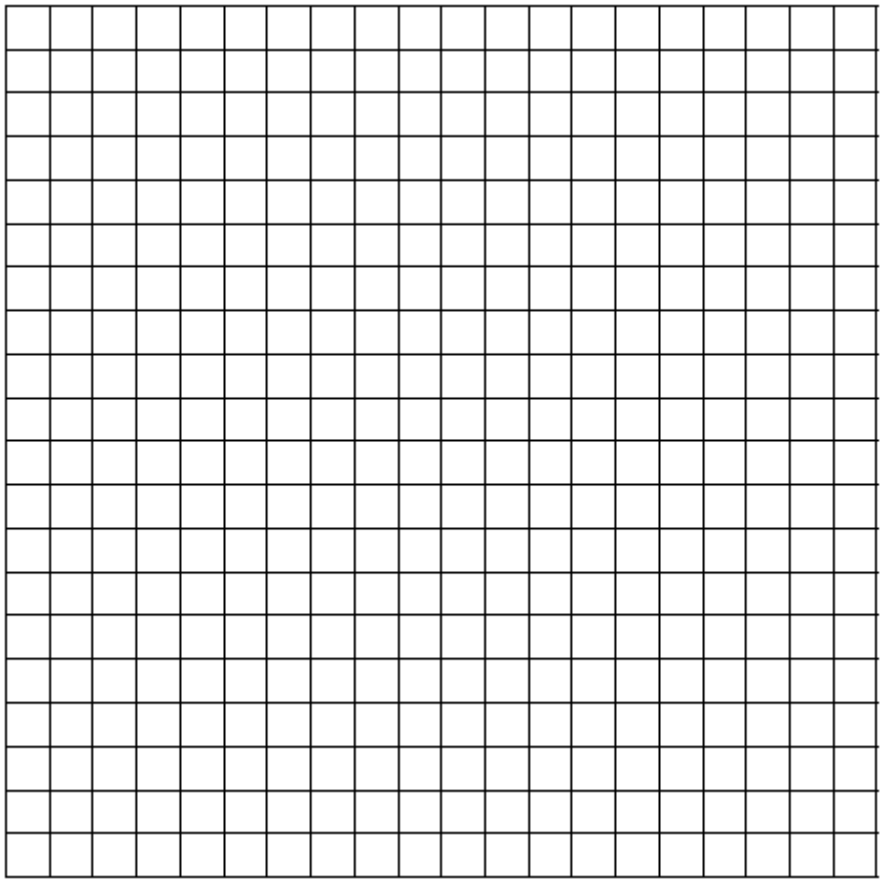
b) Write a linear regression equation to model the data in the table. Use this equation to determine the day the sheets will be shipped

c) Identify the correlation coefficient. Interpret what this tells you about the data.

3) Two different tests were designed to measure understanding of a topic. The two tests were given to ten students with the following results:

Test x	75	78	88	92	95	67	58	72	74	81
Test y	81	73	85	88	89	73	66	75	70	78

a) Construct a scatter plot for these scores, and then write an equation for the line of best fit (round slope and intercept to the *nearest hundredth*). Describe the direction, form, and strength.



b) Write a linear regression equation to model the data in the table. Predict the score, to the *nearest integer,* on test *y* for a student who scored 87 on test *x*.

c) Identify the correlation coefficient. Interpret what this tells you about the data.