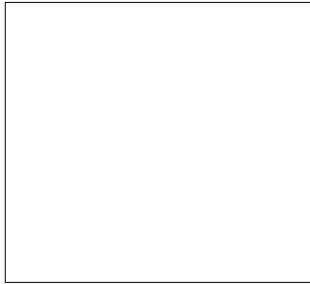


**CP Algebra 2  
Linear Regression**

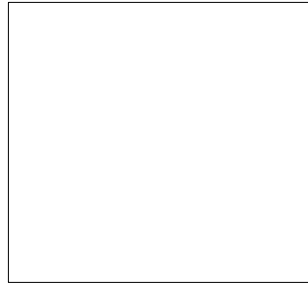
**Name:** \_\_\_\_\_

**Scatter plot:**

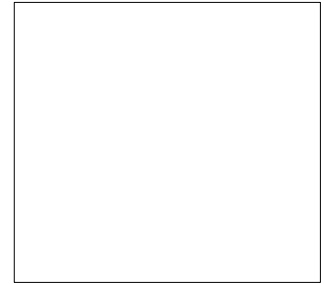
**Correlation Coefficient:**



Negative Correlation



No Correlation



Positive Correlation

**Linear Regression:**

**Sample Data Set**

$x$	$y$
3	8
6	20
8	30
10	50
12	75

**Scatter Plot / Line of Best Fit**



**To Put in Ti-83 / 84:**

STAT --> EDIT 1: EDIT  
- Enter "x" values in L1  
- Enter "y" values in L2

STAT --> CALC 4: LinReg(ax+b)

LinReg(ax+b) L1,L2,Y1

L1 = Yellow / 1; L2 = Yellow / 2  
Y1 = VARS --> Y-VARS 1:FUNCTION --> Y1

2<sup>nd</sup> Y= --> PLOT 1 --> ON  
WINDOW --> Set Appropriately  
GRAPH

Answers Here:  $y = mx + b$

$m =$                        $b =$

$r =$

Prediction for  $x = 15$ :

**[ EX 1 ]      Monopoly Property Values**

Spaces from Go	Cost to Buy	Questions to Answer:
1	60	1.) Find the equation to determine the cost of a property (y) based on the spaces that property is from Go (x).
3	60	
6	100	2.) Is a line a good fit for this data? Explain.
8	100	
9	120	
11	140	
13	140	
14	160	
16	180	
18	180	
19	200	
21	220	
23	220	3.) How much would you expect to pay for a property located 86 spaces from Go?
24	240	
26	260	
27	260	
29	280	4.) Approximately how many spaces from Go would you find a property for \$1000?
31	300	
32	300	
34	320	
37	350	
39	400	

**EX 2 ]** In 1949, Pierce studied the number of chirps made by a cricket per second relative to the air temperature, in Fahrenheit.

( Data courtesy: <http://mathbits.com/Mathbits/TISection/Statistics2/linearREAL.htm> )

Temperature	Chirps / Second	Questions to Answer:	
88.6	20	1.) Find the equation to determine the number of chirps per second (y) based on the air temperature (x).	
71.6	16		
93.3	19.8	2.) Is a line a good fit for this data? Explain.	
84.3	18.4		
80.6	17.1		
75.2	15.5		
69.7	14.7		
82	17.1		
69.4	15.4		3.) How many chirps per second would you expect from a cricket outside on a 100 degree day?
83.3	16.2		
78.6	15		4.) Approximately what temperature would cause a cricket to make 25 chirps per second?
82.6	17.2		
80.6	16		
83.5	17		
76.3	14.1		