

Name _____

Linear Regression and Correlation Coefficient

Directions: With your partner go to tinyurl.com/linReg18

Write at least 5 things you discover about using this sim.

1. _____

2. _____

3. _____

4. _____

5. _____

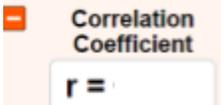
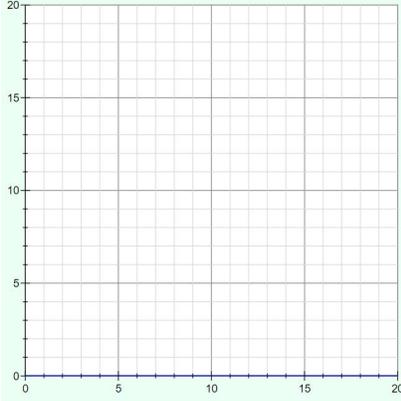
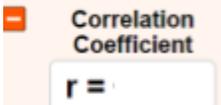
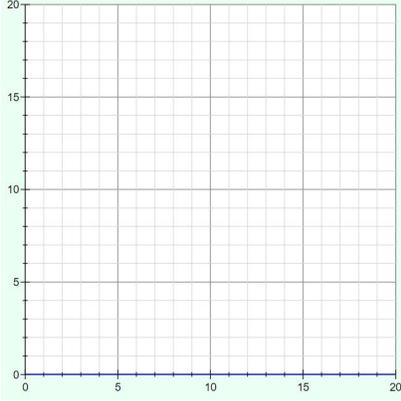
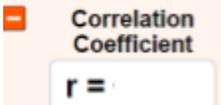
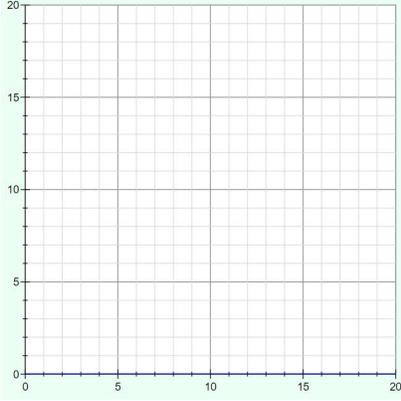
Name _____

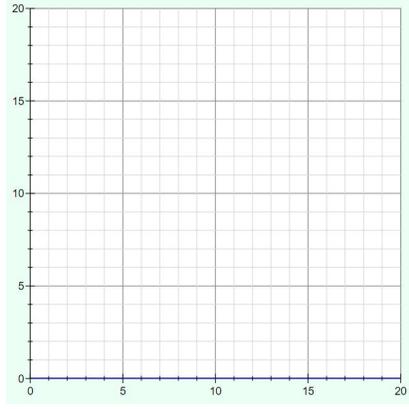
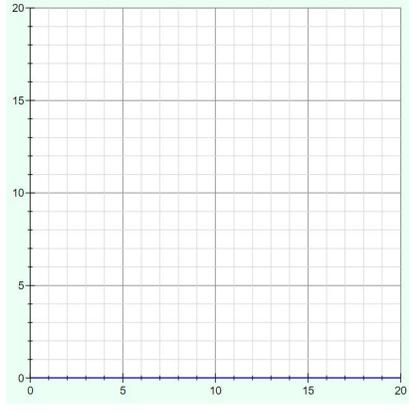
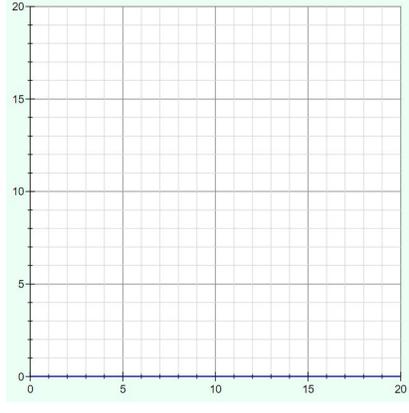
Linear Regression and Correlation Coefficient

Directions: Go to tinyurl.com/linReg18

Check grid lower right hand corner

Fill in the table below and reset the sim for each data set

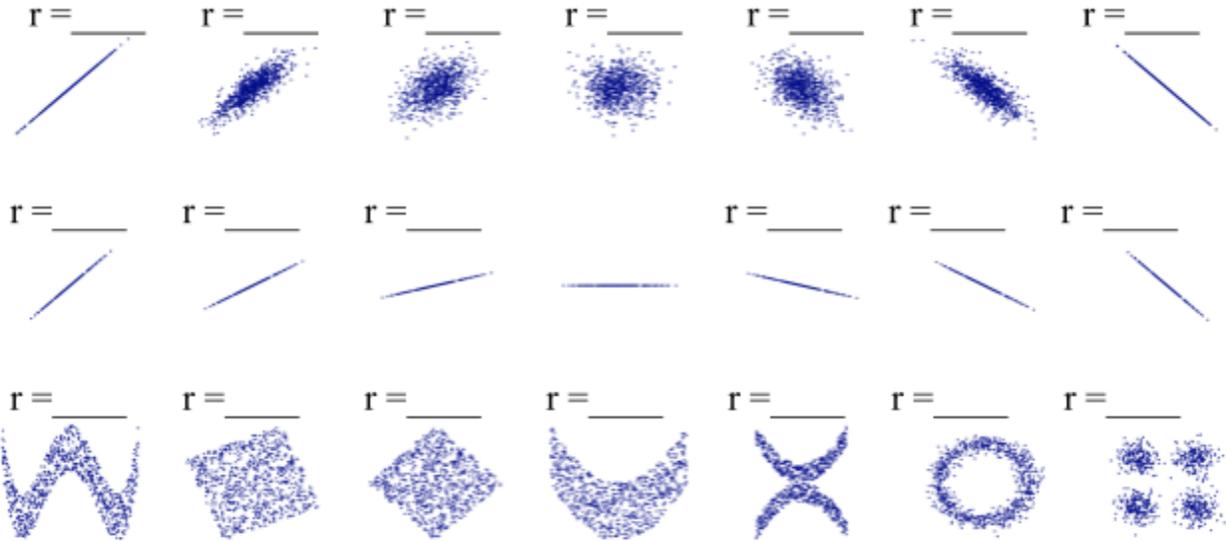
Desired Correlation Coefficient	Create a data set with at least 5 points and sketch	Predict the line that goes through your points. Then write the actual best fit line and correlation coefficient	How close are the points to the red line?
Positive + 		<input checked="" type="checkbox"/> My Line $y = _ _ x + _ _$ $y = a x + b$ <input checked="" type="checkbox"/> Best-Fit Line $y = _ _ x + _ _$	
Positive + 		<input checked="" type="checkbox"/> My Line $y = _ _ x + _ _$ $y = a x + b$ <input checked="" type="checkbox"/> Best-Fit Line $y = _ _ x + _ _$	
Negative - 		<input checked="" type="checkbox"/> My Line $y = _ _ x + _ _$ $y = a x + b$ <input checked="" type="checkbox"/> Best-Fit Line $y = _ _ x + _ _$	

<p>Negative -</p> <p><input type="checkbox"/> Correlation Coefficient</p> <p>r = <input type="text"/></p>		<p><input checked="" type="checkbox"/> My Line</p> <p>y = <input type="text"/> x + <input type="text"/></p> <p>y = a x + b</p> <p><input checked="" type="checkbox"/> Best-Fit Line</p> <p>y = <input type="text"/> x + <input type="text"/></p>	
<p>Zero 0</p> <p><input type="checkbox"/> Correlation Coefficient</p> <p>r = <input type="text"/></p>		<p><input checked="" type="checkbox"/> My Line</p> <p>y = <input type="text"/> x + <input type="text"/></p> <p>y = a x + b</p> <p><input checked="" type="checkbox"/> Best-Fit Line</p> <p>y = <input type="text"/> x + <input type="text"/></p>	
<p>Zero 0</p> <p><input type="checkbox"/> Correlation Coefficient</p> <p>r = <input type="text"/></p>		<p><input checked="" type="checkbox"/> My Line</p> <p>y = <input type="text"/> x + <input type="text"/></p> <p>y = a x + b</p> <p><input checked="" type="checkbox"/> Best-Fit Line</p> <p>y = <input type="text"/> x + <input type="text"/></p>	

Compare your answers with another group and discuss these questions:

1. What do all of the positive correlation coefficients have in common?
2. What do all of the negative correlation coefficients have in common?
3. What does $r=0$ mean?
4. What does $r=1$ mean?
5. What does $r=-1$ mean?

6. Can you predict the correlation coefficient of these data sets?



Summary:

A line of best fit is _____

Correlation coefficient tells us _____

$r = 1$		$r = -1$	
$.7 \leq r < 1$		$-1 < r < -.7$	
$.3 \leq r \leq .7$		$-.7 \leq r \leq -.3$	
$0 < r \leq .3$		$-.3 < r < 0$	
$r = 0$			

Follow Up:

1. What do all of the positive correlation coefficients have in common?



2. What do all of the negative correlation coefficients have in common?

