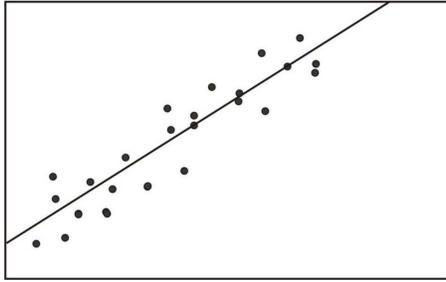# Testing Linear Correlation Coefficient & TI

Testing linear correlation coefficient r:

$H_0 : \rho = 0 \Rightarrow$ **Linear Correlation is not significant**

$H_1 : \rho \neq 0 \Rightarrow$ **Linear Correlation is significant**

Where ρ is the greek letter and it is pronounced rho.

Using traditional & P-Value Methods:

1. **Find CTS & P-value Using TI:** $\boxed{\text{STAT}} > \boxed{\text{TESTS}} \downarrow \boxed{\text{LinRegTTest}}$ **choose** $\boxed{\rho :\neq 0}$

2. **Find CTS & P-value Using formula &TI:**

	Formula	TI Command
C.T.S.	$t = r \cdot \sqrt{\dfrac{n-2}{1-r^2}}$	**invT with** $df = n - 2$

3. **Conclusion Process:**

   - Use the testing chart to determine the validity of H_0 and H_1.
   - Draw the final conclusion whether linear correlation is significant or not.

Predicting y value for a given x value:

- Use $y = a + bx$ when linear correlation is significant.

   Plug in the given x value to find the prediction value y.

- Use $\overline{y}$ when linear correlation is not significant.