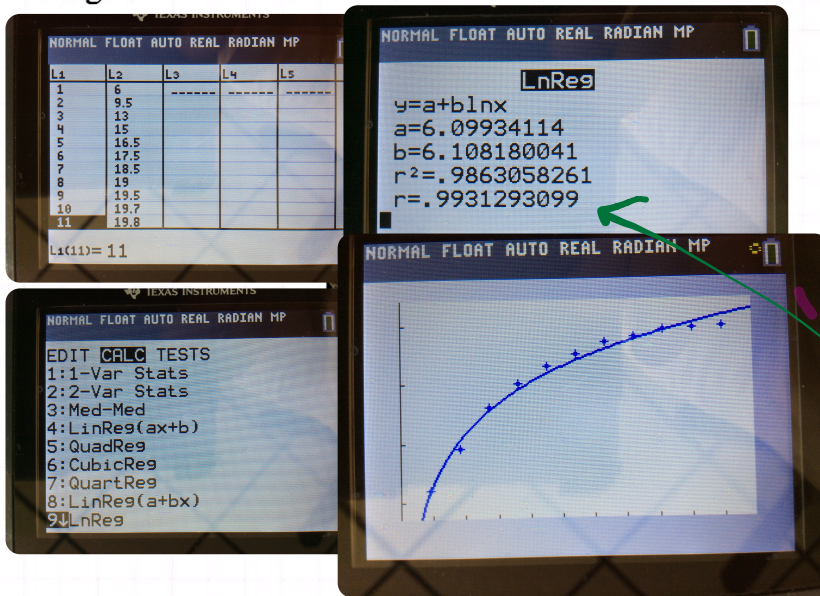


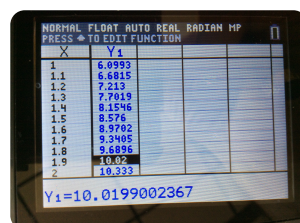
# Logarithmic Regression Model Example

**Data:** The data below show the average growth rates of 12 Weeping Higan cherry trees planted in Washington, D.C. At the time of planting, the trees were one year old and were all 6 feet in height.



Age of Tree (in years)	Height (in feet)
1	6
2	9.5
3	13
4	15
5	16.5
6	17.5
7	18.5
8	19
9	19.5
10	19.7
11	19.8

- Task:**
- Determine a logarithmic regression model equation to represent this data.
  - Graph the new equation.
  - Decide whether the new equation is a "good fit" to represent this data. *Very Strong*
  - Interpolate: What was the average height of the trees at one and one-half years of age? (to the nearest tenth of a foot) *8.6*
  - Extrapolate: What is the predicted average height of the trees at 20 years of age? Is this prediction realistic? (answer to the nearest tenth of a foot) *24.4 not really*
  - Based upon your observations of this data, what would you predict to be the average height of a mature Higan cherry tree, to the nearest foot?
  - If the average height of the trees is 10 feet, what is the age of the trees to the nearest tenth of a year? *About 1.9 years*



*About 20  
y/c after 8  
years the growth  
rate slows down*