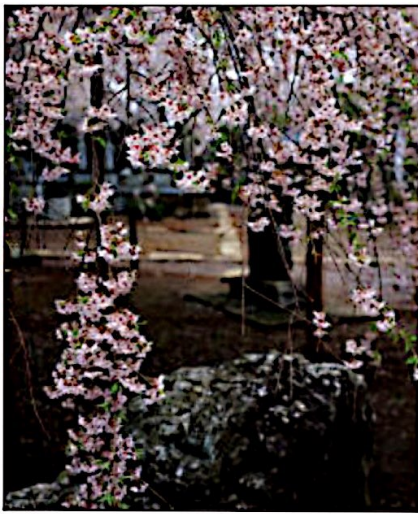


Logarithmic Regression Model Example

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.
 - Interpolate: What was the average height of the trees at one and one-half years of age? (to the *nearest tenth* of a foot)
 - 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)
 - 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?