



## Activity II: Continuously Changing Growth

Growth Changing at a Continuously Increasing Rate.

1. Simulating real plant growth is quite challenging because plant growth is dependent on many factors that vary, such as rainfall, climate, differences in soil, and so on. To begin to understand how to find a mathematical model for a growing plant, use as example to model and learn from it. Consider a plant which hypothetically grows in steps which are 0.45 the length of the previous growth and assume that the first measurable stem length is 20 millimeters.
  - a. Make a table showing the length of the plant's stem at the end of each of the first 8 steps.
  - b. Make a graph of the values in the table.
  - c. Write a formula representing the growth in the simulation based on the pattern of growth from one term to the next.
2. Determine an equation that will represent the growth of the plant in terms of the number of the step.