Here are a few more "context" problems where the slope function is used. You will need to be able to find the "slope-function", and to use it! All models on this page have some exponential part.

(1) In 1999 the world population was about 6 billion people, and the world population has been growing at a rate of about 1.4 percent each year since then.
   (a) Find a model for the world population.
   (b) At what rate was the world population growing in the years 2000, 2005, 2010, 2015?

(2) The revenue for Dell Computer Corporation between 1987 and 1999 can be modeled by the function $R(t) = 97.04(1.5649^t)$ million dollars $t$ years after 1987.
   (a) What was Dell's revenue in 1998, and how rapidly was the revenue changing in 1998?
   (b) Find and interpret the percentage rate of change of Dell's revenue in 1998.

(3) The amount of the average monthly cell phone bill during the 1990s can be described by $A(x) = 62.9518(0.9380)^x + 39$ dollars when there are $x$ million cell phone subscribers.
   (a) Find a formula for the slope function (derivative) $A'(x)$.
   (b) Evaluate and interpret $A(10)$ in the context of cell phones.
   (c) Evaluate and interpret $A'(10)$ in the context of cell phones.
      (Careful! This interpretation is easy to mess up! What is on the input axis?)