

MT 1800 – Calculus I
1.1 Class Examples

Examples of functions

1. Narrative description:

In the Andes Mountains in Peru, the number, N , of species of bats is a decreasing linear function of the elevation, h , in feet above sea level. At sea level there are 362 species and the number of species decreases by 5 per meter increase in height.

Symbolically:

Graphically:

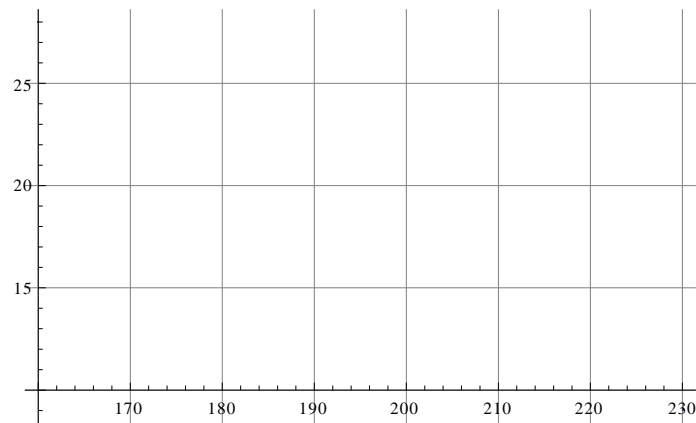
Table:

Can we draw some interesting conclusion from this function?

2. Viscosity is a measure of how easily a fluid flows. For most fluids (pancake syrup and motor oil, for example), the viscosity depends on temperature. The following table gives the viscosity of a certain motor oil at various temperatures.

<i>Temperature ($^{\circ}F$)</i>	<i>Viscosity ($lbs\cdot sec/in^2$)</i>
160	28
180	24
190	21
200	16
220	11
230	9

Represent the function graphically. Label the axes!



Describe in words the characteristics of the plot.