Section 1.1 Math 141
Examples of Functions of Several Variables

Main ideas

Many (most?) quantities in real-life settings depend on more than one other quantity. That is, most values are functions of several other variables (i.e. values that vary).

A multivariable function is one which has more than one input variable, for example $f(x, y)$ or $f(x, y, z)$, as opposed to a single variable function $f(x)$.

Sometimes we're interested in what combination of values of the variables would result in a particular fixed value of the function. These are level curves.

In Class

1. An examples of functions of several variables:
   Balance in bank account: $B(P, r, n, t) = P\left(1 + \frac{r}{n}\right)^{nt}$.

2. Book: Example 1, Example 2. Back to Figure 1. Online function plotter, including 3D. Example 3, Level Curves, Example 4, Homework 23 – 26.

3. Level curves for $f(x, y) = x^{2/3}y^{1/3}$ for $f = 5$.

In Groups, if time

4. HW 1.1.23 – 26.