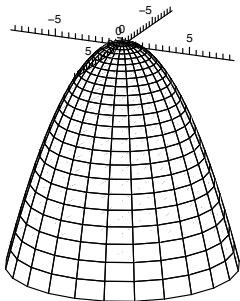


Intuitive Example, to Motivate Idea of Limits:

Let $z = f(x, y)$, where $f(x, y) = 1 - x^2 - y^2$.



Because of your Calc 1 experience with limits, you will not be surprised that

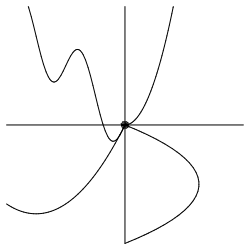
$$\lim_{(x,y) \rightarrow (0,0)} f(x, y) = 1.$$

Intuitive Example, to Motivate Idea of Limits:

What that means:

No matter what path you look at that leads to $(0, 0)$, on the surface, that path approaches $z = 1$.

A few possible paths



The surface $z = 1 - x^2 - y^2$

