

3D Sketching

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Functions and graphs

- A function f maps 2 values, (x,y) , to a single value, z . D is the domain of (x,y) values, and R is the range of z values
 - ▶ $z = f(x,y) | (x,y) \in D$
- The set of all points $(x,y,f(x,y))$ in space, for (x,y) in the domain of f , is called the graph of f
- The graph of f is also called the surface $z = f(x,y)$

Level curves

- Level curves of a function f , of two variables, are the curves with equations $f(x,y) = k$, with k some constant
- These k are z values that allow for curves to be drawn in the xy -plane