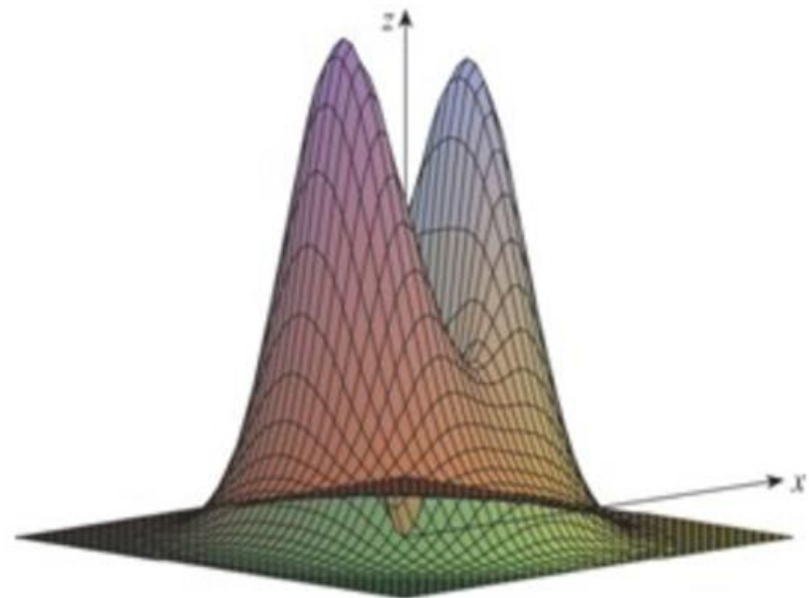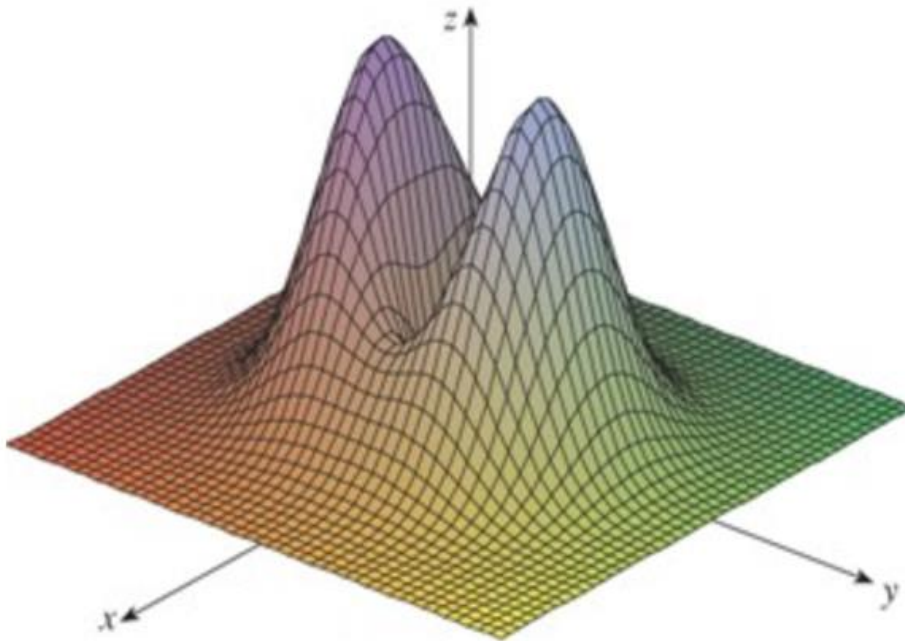# Graphs of functions in two variables

- Here is a computer generated graph.
- Notice that we get an especially good picture of a function when rotation is used to give views from different vantage points.

Level Curves

- ## The surface is:

  - ### Steep where the level curves are close together.

  - ### Somewhat flatter where the level curves are farther apart.

$f(x, y) = 20$

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Level curve of height k

$f(x, y) = k$

1/(1+x²+y²)

$1/(1+x^2+y^2)$

$1/(1+x^2+y^2)$

abs(x y)

abs(x y)

$(x^2-y^2)^2$

$(x^2-y^2)^2$