

Written Homework
Assigned Monday, October 28

Note: Standard (not preliminary) written homework is graded on your work and your explanations, not just on your answer.

Explanations are important for many reasons. Being able to communicate what you know shows a depth of understanding beyond that of being able to get the right answer to a problem. Doing the mental work of putting explanations into words helps create that depth of understanding. On exams, we will grade your work and not just your answers, so this is good practice for taking exams.

For all these reasons, be sure to: show all your work; explain your reasoning; use clear English; write neatly so all this effort does not go to waste.

Written homework is always due at 10:00 AM on the following Monday.

Assignment:

(1.) Describe the level curves of the following functions. You may draw pictures if you wish, but a clear and complete description in words is also acceptable.

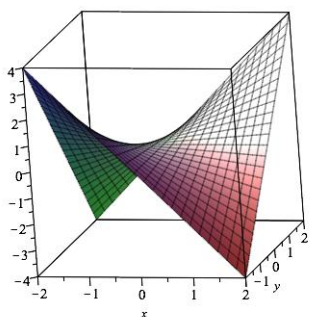
(Example: The level curves of the function $f(x, y) = x^2 + y^2$ are circles centered at the origin.)

(a.) $f(x, y) = (x + y)^3$.

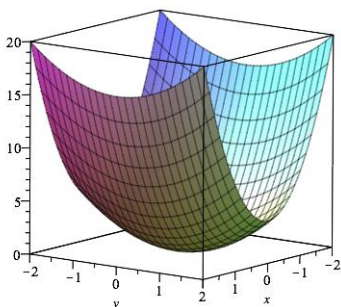
(b.) $f(x, y) = xy$.

(c.) $f(x, y) = 4x^2 + y^2$.

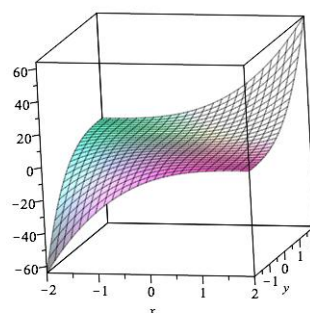
(2.) Pictured here are the graphs of the functions in problem (1). For each picture, identify the letter of the matching function.



Picture (i.)



Picture (ii.)



Picture (iii.)