

Lecture 7: Midterm

Math 195 Section 91

Monday July 6, 2009

1 Give midterm

2 Functions of several variables

examples of functions of many variables

what is the domain? what is the range? the book thinks of domain as “biggest domain possible for the given rule.” This is perhaps not the best way to define the domain.

linear functions; quadratic functions, etc.

level curves—what does it mean when they are closer together?

level surfaces

3 Limits

definition of limit and definition of continuity

examples:

$$\lim_{v \rightarrow 0} \frac{\sin ||v||}{||v||^2} = 1$$

$$\lim_{(x,y) \rightarrow 0} \frac{x^2 - y^2}{x^2 + y^2} \text{ does not exist.}$$

use properties of limits, squeeze theorem,