

Calc III Midterm Essay Review

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Hui Sun

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Chapter 1

Category Theory

1. definition review
2. proposition review
3. practice problems

1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6 3.1, 3.2

Chapter 2

Practice Problems

Problem 2.1. Compute the following limits if they exist; if the limits don't exist, please explain why.

1.

$$\lim_{(x,y) \rightarrow (1,1)} \frac{x^2 + y^2 - 2xy}{x - y}$$

Problem 2.2. Find the tangent plane of $f(x, y) = \ln(x + y) - 2x$ at $(1, 2)$.

Problem 2.3.

Chapter 3

Answer Key