

Calculus

Quiz 5

18/10/'23

You may use your class notes during the quiz. No other sources are permitted

Name: _____

1. Let $f : [1, \infty) \rightarrow [0, \infty)$ be monotonically decreasing. Prove that f is locally integrable. Prove that f is integrable iff

$$\sum_{n=1}^{\infty} f(n\alpha) < \infty \text{ for some } \alpha > 0.$$