

ASSIGNMENT 34 (ASSIGNED 4/25, DUE 4/28)

Definition: The following definitions were given before. A function f is *Lipschitz continuous* on $[a, b]$ if there is a constant $L > 0$ such that for every $u \in [a, b]$ and $v \in [a, b]$,

$$|f(u) - f(v)| \leq L|u - v|.$$

The number L is called a *Lipschitz constant* for f on $[a, b]$.

Proposition 12: If f is Lipschitz continuous on $[a, b]$, then it is Riemann integrable.

It is in fact true that if f is (merely) continuous on $[a, b]$ then it is Riemann integrable, but this is harder to prove and we will not do it.

Assignment

Prove Proposition 12 (done in class without notes).