1. **Properties of Riemann Integral**

* 1. **Theorem**: Let is a bounded function., then closed.

**Proof:** let

an open interval and

is an open set

is a closed.

* 1. **Corollary:** Let is a bounded function and discontinuous at , then .
  2. **Theorem**: Let is a bounded function and discontinuous at , then is Riemann integral is a neglected set.
  3. **Corollary:** Let are closed sets . If a function is Riemann integral, then is Riemann integral.

**Proof:** let discontinuous at , also

discontinuous at

Since a function is Riemann integral

is a neglected set

Since

is a neglected set

is Riemann integral.

* 1. **Theorem**: Let . If a bounded function is Riemann integral on , then is Riemann integral on . Also .

**Proof:** since is Riemann integral on

are a neglected sets.

is a neglected set.

Let , since is Riemann integral on

partition of and partition of

Put partition of .

is Riemann integral on

* 1. **Theorem**: Let are bounded functions with Riemann integral,

is Riemann integral on and .

**Proof:** since are bounded functions with Riemann integral

are a neglected sets.

is a neglected set.

Since

is a neglected set.

is Riemann integral on .

Also, for all partition of , we get

Let , since are Riemann integral on

partition of and partition of

Put partition of and .

Also,

Since .