Example 1. Evaluate .

Solution. (i) (say)

(ii) (say)

Here, , therefore

(iii) Put

(say)

Here, , therefore

(iv) Put

Here,

Thus, limit does not exist.

Ans.

Example 2. Evaluate .

Solution. (i) (say)

(ii) (say)

Here, , therefore

(iii) Put

(say)

Here, , therefore

(iv) Put

Here,

Thus, limit exists with value 0.

Ans.