Answer on Question #42451 - Math – Calculus

Question

Find the indicated limit, if it exists.

limit of f of x as x approaches 8 where f of x equals x plus 10 when x is less than 8 and f of x equals 10 minus x when x is greater than or equal to 8

Answer

The limit does not exist. However there are left and right limits. When x approaches 8 from the left, the left limit is 8+10=18. When x approaches 8 from the right, the right limit equals 10-8=2. But 18 not equal 2. Therefore limit does not exist.