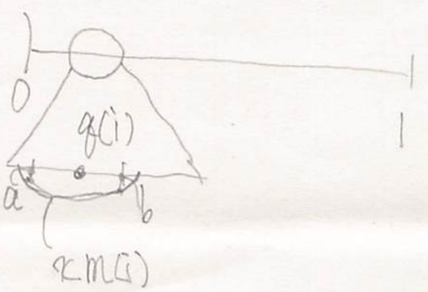
Report 062301679 Yamamura ~~Yu~~ Yuta

We consider natural numbers corresponding to rational numbers in the interval 0 to 1. for example, $q(1)=1$, $q(2)=\frac{1}{2}$, $q(3)=\frac{1}{3}$, $q(4)=\frac{2}{3}$, $q(5)=\frac{1}{4}\cdots$

If we take the value $q(i)$ (i is natural number) in the interval from 0 to 1 and $q(i)$ can be covered with $(a, b]$ (a, b are very close to $q(i)$ and are irrational number) We can make the interval of $(a,b]$ very small one. It can be smallar than $x\,m(i)$ ($\sum_{i=1}^{\infty} m(i)$ converges to finate value) for any $x \in \mathbb{R}$. For example, we think $m(i)=\frac{1}{i!}$. $x\,m(i)$ can be bigger than $|(a,b]|$ for any x. Therefore, $\lim_{x\to 0} x\sum_{i=1}^{\infty} m(i) = \lim_{x\to 0} ex = 0$

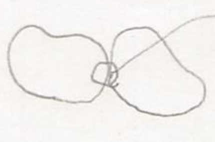


3

$\Omega_1 \cap \Omega_2 = \phi$

$m^*(\Omega_1 \cup \Omega_2) < m^*(\Omega_1) + m^*(\Omega_2)$ in drawing

in here we can't see



$m^*(\Omega_1 \cup \Omega_2) = m^*(\Omega_1) + m^*(\Omega_2)$