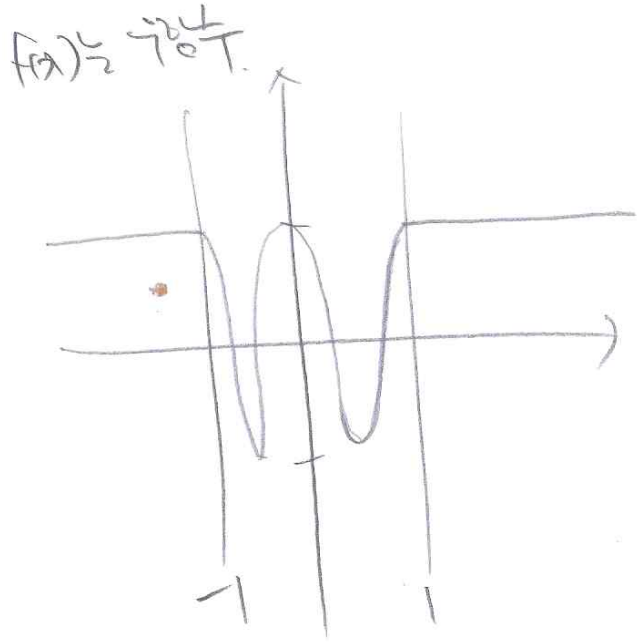
1. $f(x)=\lim_{n\to\infty}\frac{x^{2n}+\cos 2\pi x}{x^{2n}+1}$

$g(x)=\int_{-x}^{2} f(t)\,dt+\int_{2}^{x} tf(t)\,dt$

$g(-2)+g(2)=?$



(i) $x^2 \to x^2<1 \quad (-1<x<1)$

$x^2>1$ ② $x<-1$ $x>1$

$x^2=1$ ③ $x=1$

④ $x=-1$

$\cos 2\pi x$

$\frac{1+0}{1+0}=1$

$\frac{1+\cos 2\pi}{2}=\frac{1+1}{2}=1$

$\frac{1+\cos(-2\pi)}{2}=\frac{1+1}{2}=1$

$g(-2)=\int_{2}^{2} f(t)\,dt+\int_{2}^{-2} tf(t)\,dt=0$

$\int_2^2 f(t)\,dt \to 0$

$\int_2^{-2} tf(t)\,dt$: $71\times\frac{0}{T}=71 \to 0$

$g(2)=\int_{-2}^{2} f(t)\,dt+\int_{2}^{2} tf(t)\,dt=2\int_{0}^{2} f(t)\,dt$

$\int_2^2 tf(t)\,dt \to 0$

$=2\left(\int_0^1 \cos 2\pi t\,dt+\int_1^2 1\,dt\right)$

$=2$

답 ③