

$$\sum_{n=0}^{\infty} \frac{\sin(2n+1)x}{2n+1} = \begin{cases} \pi/4 & \text{voor } 0 < x < \pi \\ \pi/4 & \text{voor } -\pi < x < 0 \end{cases}$$

well first of all, this is an odd function, so $a_n = 0$,
 using Moivre, we can see that $b_n = 0$ and $b_{-n} = 0$,

$$b_{2n+1} = \frac{1}{2n+1}$$

however b_{2n+1} is not zero.