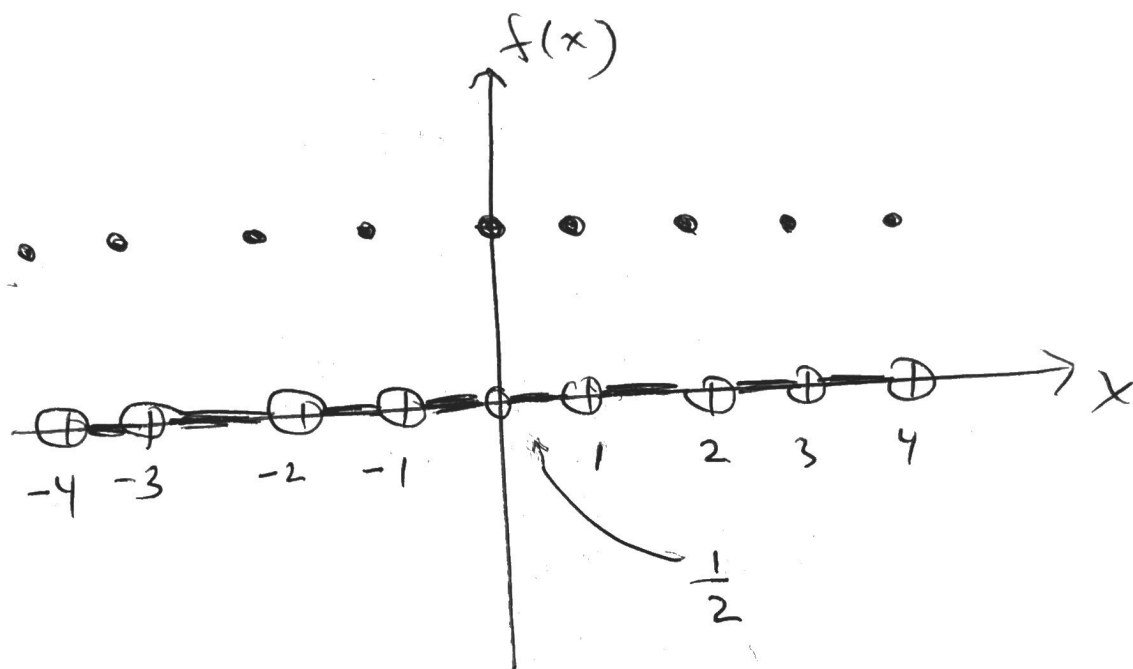


$$f(x) = \begin{cases} 1 & x \text{ is an integer} \\ 0 & x \text{ is not an integer} \end{cases}$$



a) $\lim_{x \rightarrow \frac{1}{2}} f(x) = 0$ $\begin{cases} \text{It is approaching} \\ 0 \text{ from both sides.} \end{cases}$

b) $\lim_{x \rightarrow 2} f(x) = 0$ $\begin{cases} \text{It is approaching} \\ 0 \text{ from both sides.} \end{cases}$

* * Note: $f(2) = 1$

but $\lim_{x \rightarrow 2} f(x) = 0$