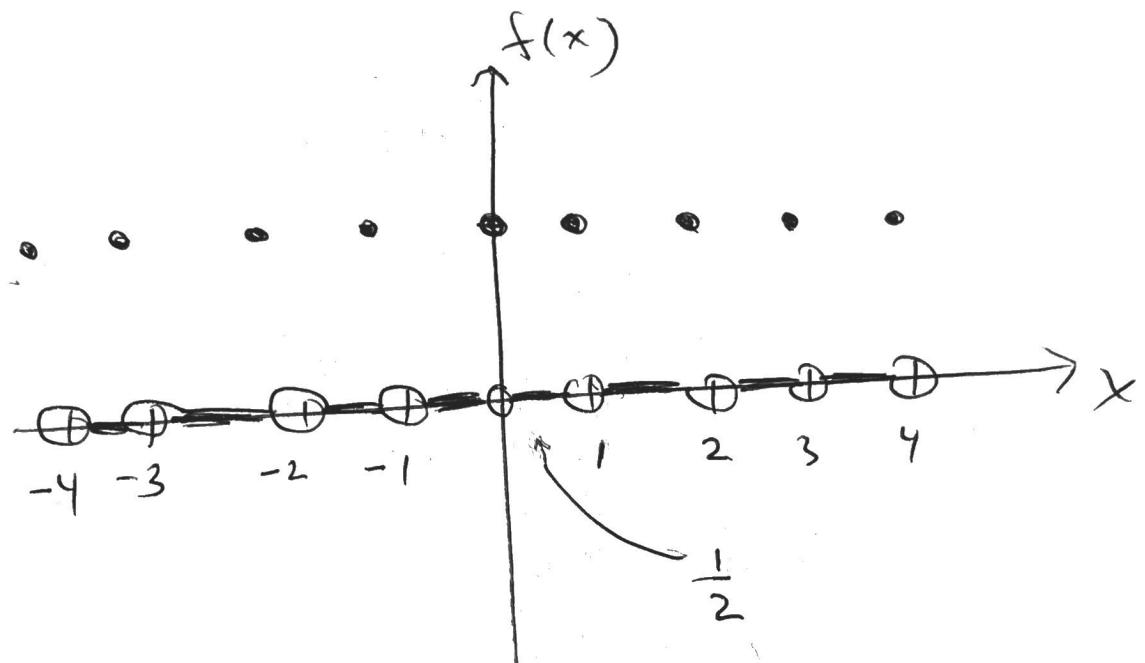


$$f(x) = \begin{cases} 1 & x \text{ is an integer} \\ 0 & x \text{ is not an integer} \end{cases}$$



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

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

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

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