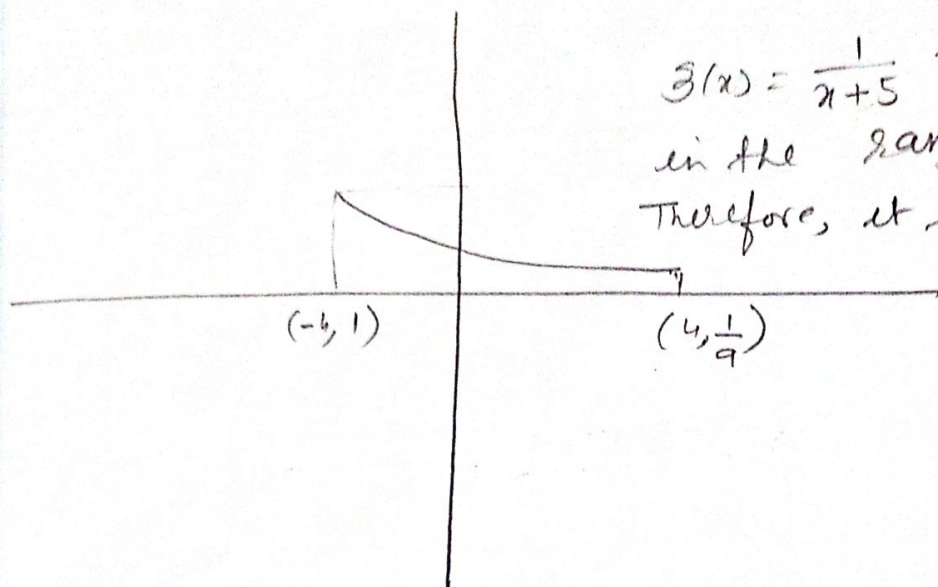


Week 3

02



$f(x) = \frac{1}{x+5}$ is finite
in the range $(-6, 4)$.
Therefore, it is continuous.

01

$$\lim_{x \rightarrow 2^-} f(x) = \lim_{x \rightarrow 2^-} \frac{(x^2 - 4)}{(x - 2)} = \lim_{x \rightarrow 2^-} (x + 2) = 4$$

$$\lim_{x \rightarrow 2^+} f(x) = \lim_{x \rightarrow 2^+} \frac{(x^2 - 4)}{(x - 2)} = \lim_{x \rightarrow 2^+} (x + 2) = 4$$

The function is continuous at $x = 2$

when

$$\lim_{x \rightarrow 2} f(x) = \lim_{x \rightarrow 2} (x + 2) = 4$$