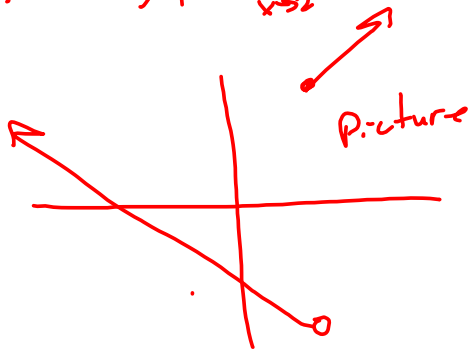


$$\lim_{x \rightarrow 2} \frac{x^2 + 5x - 14}{|x - 2|}$$

$$\lim_{x \rightarrow 2^-} \frac{x^2 + 5x - 14}{-(x - 2)} = \lim_{x \rightarrow 2^-} \frac{(x + 7)(x - 2)}{-(x - 2)} = \lim_{x \rightarrow 2^-} \frac{x + 7}{-1} = -9$$

$$\lim_{x \rightarrow 2^+} \frac{x^2 + 5x - 14}{x - 2} = \lim_{x \rightarrow 2^+} \frac{(x + 7)(x - 2)}{x - 2} = \lim_{x \rightarrow 2^+} (x + 7) = 9$$

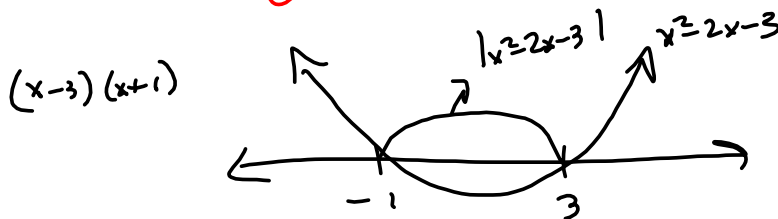
$\lim_{x \rightarrow 2} f(x)$   $\exists$ , b/c  $\lim_{x \rightarrow 2^-} f(x) = -9 \neq 9 = \lim_{x \rightarrow 2^+} f(x)$



$$|Blob| = \begin{cases} Blob & \text{if } Blob \geq 0 \\ -Blob & \text{if } Blob < 0 \end{cases}$$

$$\begin{aligned} -x - 7 & \quad x < 2 \\ x + 7 & \quad x \geq 2 \end{aligned}$$

$$|x^2 - 2x - 3| = \begin{cases} x^2 - 2x - 3 & \text{if } x^2 - 2x - 3 \geq 0 \\ -(x^2 - 2x - 3) & \text{if } x^2 - 2x - 3 < 0 \end{cases}$$



$$= \begin{cases} x^2 - 2x - 3 & \text{if } x \leq -1 \text{ or } x \geq 3 \\ -(x^2 - 2x - 3) & \text{if } -1 < x < 3 \end{cases}$$