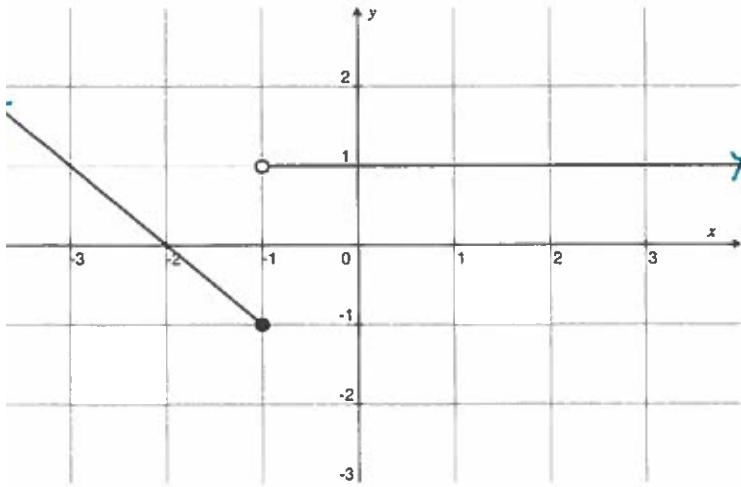


What is your name? Key

Period: \_\_\_\_\_

AP Calculus AB: 2.1 Limits Graphically

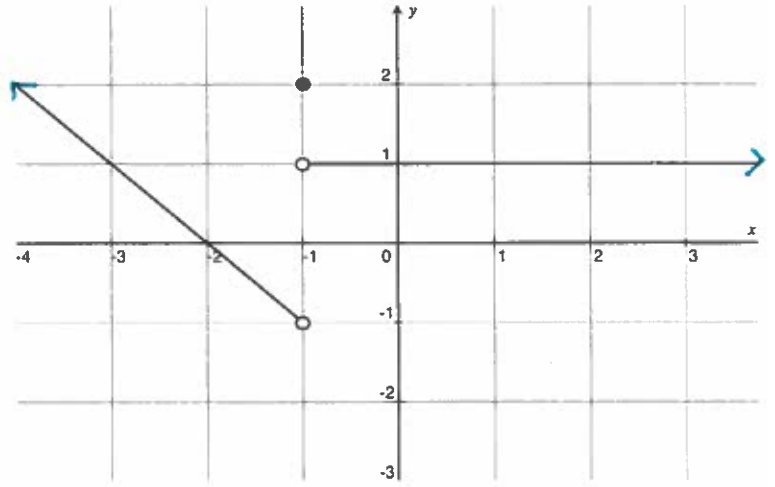


$$\lim_{x \rightarrow -1^-} f(x) = -1 \qquad \lim_{x \rightarrow -1^+} f(x) = 1$$

$$\lim_{x \rightarrow -1} f(x) = \text{DNE} \qquad f(-1) = -1$$

$$\lim_{x \rightarrow 3} f(x) = 1 \qquad \lim_{x \rightarrow -2} f(x) = 0$$

$$\lim_{x \rightarrow \infty} f(x) = 1 \qquad \lim_{x \rightarrow -\infty} f(x) = \infty$$

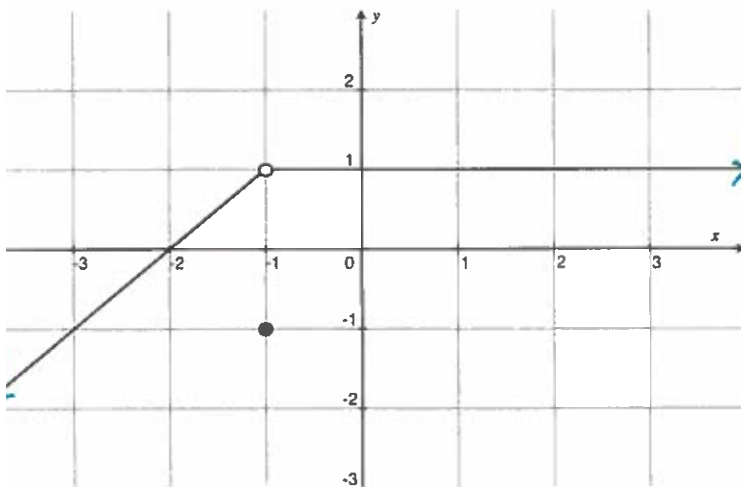


$$\lim_{x \rightarrow -1^-} f(x) = -1 \qquad \lim_{x \rightarrow -1^+} f(x) = 1$$

$$\lim_{x \rightarrow -1} f(x) = \text{DNE} \qquad f(-1) = 2$$

$$\lim_{x \rightarrow -3} f(x) = 1 \qquad \lim_{x \rightarrow -\infty} f(x) = \infty$$

$$\lim_{x \rightarrow \infty} f(x) = 1$$

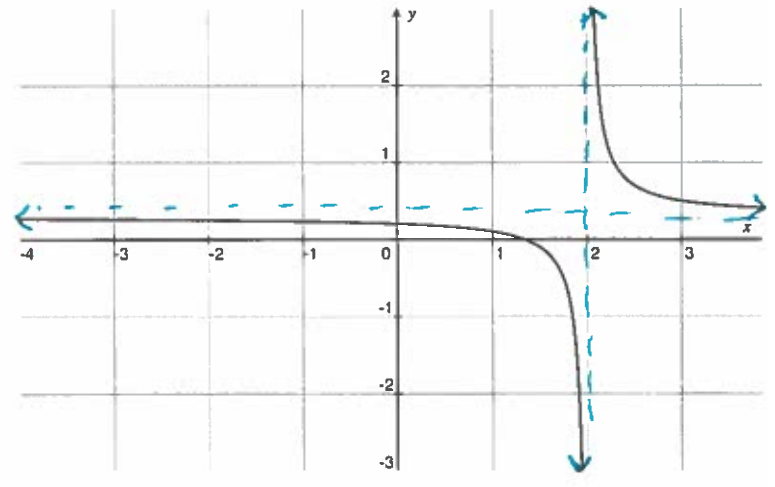


$$\lim_{x \rightarrow -1^-} f(x) = 1 \qquad \lim_{x \rightarrow -1^+} f(x) = 1$$

$$\lim_{x \rightarrow -1} f(x) = 1 \qquad f(-1) = -1$$

$$\lim_{x \rightarrow \frac{1}{2}} f(x) = 1 \qquad \lim_{x \rightarrow -\infty} f(x) = -\infty$$

$$\lim_{x \rightarrow \infty} f(x) = 1$$



$$\lim_{x \rightarrow 2^-} f(x) = -\infty \qquad \lim_{x \rightarrow 2^+} f(x) = \infty$$

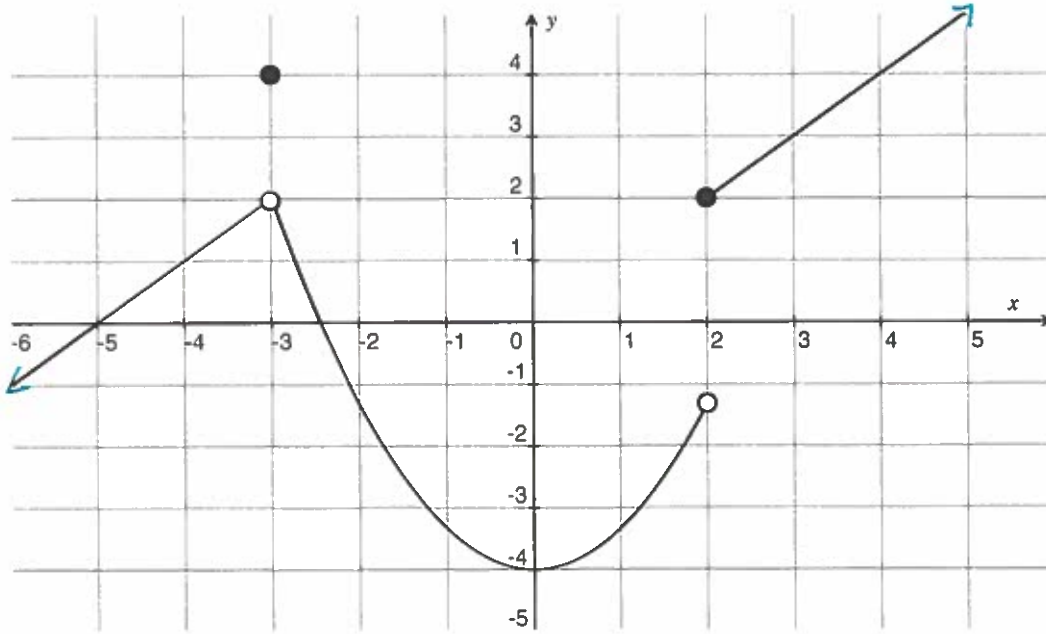
$$\lim_{x \rightarrow 2} f(x) = \text{DNE} \qquad f(2) = \text{DNE}$$

$$\lim_{x \rightarrow 3} f(x) = \frac{1}{2} \qquad \lim_{x \rightarrow -\infty} f(x) \approx \frac{1}{3}$$

$$\lim_{x \rightarrow \infty} f(x) \approx \frac{1}{3}$$

What is your name? \_\_\_\_\_

Period: \_\_\_\_\_



$$\lim_{x \rightarrow -3} f(x) = 2$$

$$\lim_{x \rightarrow 2} f(x) = \text{DNE}$$

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

$$\lim_{x \rightarrow 0} f(x) = -4$$

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

$$\lim_{x \rightarrow -3^+} f(x) = 2$$

$$\lim_{x \rightarrow -5} f(x) = 0$$

$$\lim_{x \rightarrow 2^-} f(x) \approx -1.3$$

$$\lim_{x \rightarrow \infty} f(x) = \infty$$

Find the limits of the function with the graph below. The function  $f(x)$  is continuous throughout the graph except at 4.5 it has a hole.

x	f(x)
3	5.75
3.5	6
4	6.25
4.5	DNE
5	6.75
5.5	7
6	7.25

$$\lim_{x \rightarrow 4.5^-} f(x) = 6.5$$

$$\lim_{x \rightarrow 4.5^+} f(x) = 6.5$$

$$\lim_{x \rightarrow 4.5} f(x) = 6.5$$

$\lim_{x \rightarrow 6} f(x) = \text{DNE}$  because we don't know if it's approaching 7.2 from the right

$$\lim_{x \rightarrow 3.5} f(x) = 6$$

What discontinuity is occurring on the function  $f(x)$  where it says DNE?

hole