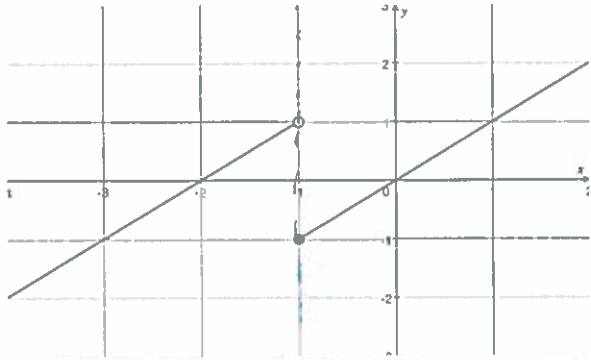


Write your name continuously here: Key Period: _____

AP Calculus AB: 2.5 Continuity Graphically

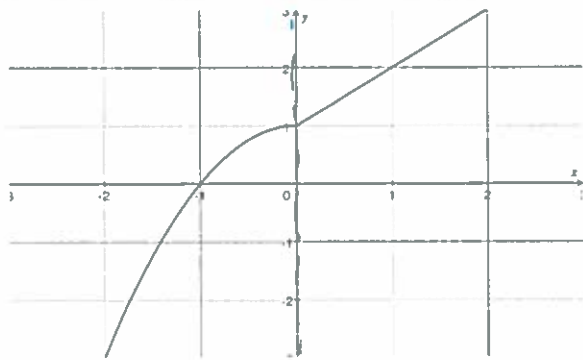
Write whether the following functions are continuous or not. If they are not continuous give the reason.



Is the function continuous at x = -1?

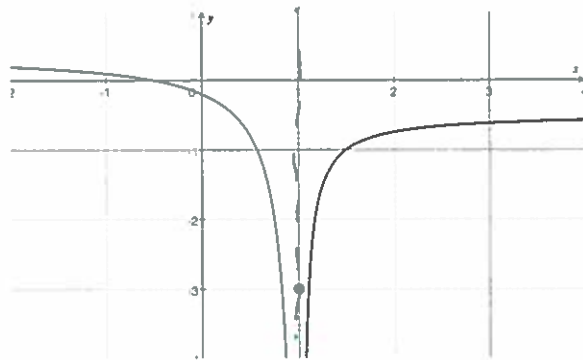
No

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



Is the function continuous at x = 0?

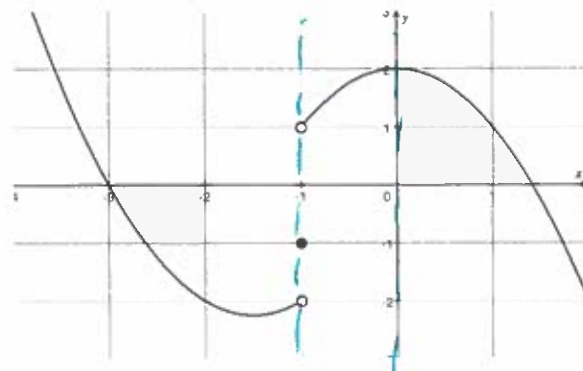
yes



Is the function continuous at x = 1?

No

$$\lim_{x \rightarrow 1} f(x) \neq f(1)$$



Is the function continuous at x = -1?

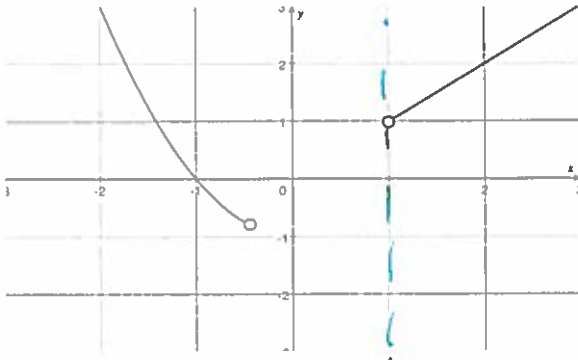
No

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

Is the function continuous at x = 0?

yes

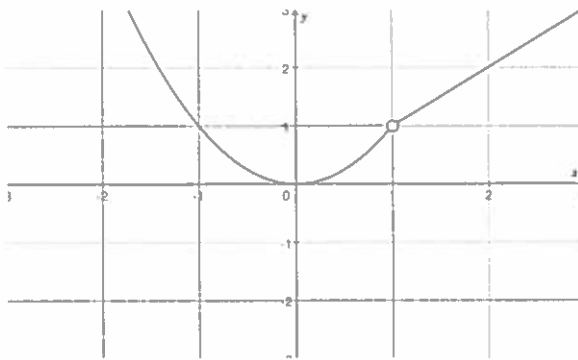
Write your name continuously here: _____ Period: _____



Is the function continuous at $x=1$?

No

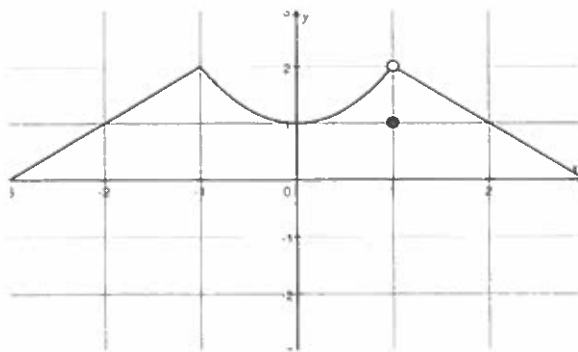
$$\lim_{x \rightarrow 1} f(x) \text{ DNE}$$



Is the function continuous at $x=1$?

No

$$f(1) \text{ DNE}$$



Is the function continuous at $x=-1$?

yes

Is the function continuous at $x=0$?

yes

Is the function continuous at $x=1$?

$$\text{No } \lim_{x \rightarrow 1} f(x) \neq f(1)$$

Using your infinite wisdom, and some math knowledge, tell me if you think the functions below are continuous from $-\infty$ to ∞ or not.

1. $y = 2x^2 + 3x - 5$

yes, its has no discontinuities

2. $y = \frac{2x^2 - 9x - 5}{2x + 1}$

No there is a hole or V.A. at $x = -1/2$

3. $y = \sqrt{x + 1}$

No, you can't have negative numbers

4. $y = \sqrt[3]{x + 1}$

yes, negative numbers exist with odd roots

5. $f(x) = \begin{cases} \frac{x}{2} + 5, & x < 6 \\ 8, & x \geq 6 \end{cases}$

L: $f(6) = \frac{6}{2} + 5 = 3 + 5 = 8$

R: $f(6) = 8$

yes there are no discontinuities.