

Limits and Continuity

Recall the three conditions that make a function continuous at $x = a$. Describe the conditions in your own words.

1. $\lim_{x \rightarrow a} f(x)$ exists _____
2. f is defined at a _____
3. $f(a) = \lim_{x \rightarrow a} f(x)$ _____

A. Draw the graph of a function where condition 1 is met, but condition 2 is not.

If $a = 0$

If $a = -2$

If $a = 3$

B. Draw the graph of a function where condition 2 is met, but condition 1 is not.

If $a = 0$

If $a = -2$

If $a = 3$

C. Draw the graph of a function where conditions 1 and 2 are met, but condition 3 is not.

If $a = 0$

If $a = -2$

If $a = 3$