

What Kinds of Discontinuities Are There?

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A.P. Calculus AB/Calculus I
Lesson II.iii.2
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Recall: Formal Definition of Continuity

Let f be a function and c a value of its domain. Then f is continuous at c if and only if:

$$\lim_{x \rightarrow c} f(x) = f(c).$$

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Remember: continuity works both ways and is all or nothing!

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- Is it continuous at $x = 0$?
- What “went wrong” with its continuity?

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We've just looked at how one discontinuous function is, but are they all like that? Let's look at some functions and find out!

Activity Time

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- Get together with your home group.
 - Each group gets a worksheet and set of cards.
- Remember our formal definition of continuity, since it will help you to understand discontinuity:

Given a function f and a value c in its domain, f is continuous at c if and only if
$$\lim_{x \rightarrow c} f(x) = f(c).$$

- Be prepared to share results with the class.