Source: [KBe2020math401index]

1 | Reading

Openstax

Link

- #define continuity at a point
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$$\lim_{x \to a} f(x) = f(a)$$
  - To ensure that it is defined, connected on both sides, and doesn't have a random point
  - To check for continuity, just check for $f(a)$, $\lim_{x \to a} f(x)$, and that they are equal
- Rational functions
  - Are continuous on their domains
    - Basically anywhere they are defined
- Discontinuity types
  - Removable discontinuities
    - Hole in the graph
  - infinite is continuity
    - asymtote
  - jump discontinuity
- Continuity from the right and left
  - Same as definition of continuous, but replace the limit with right and left hand limits respectively

libretexts

Link - Basically the same thing - Properties of continuous functions (group like bits) - > Let and be continuous functions on an interval , let be a real number and let be a positive integer. The following functions are continuous on . > - Sums/Differences : ± > - Constant Multiples : > - Products : > - Quotients : / (as long as ≠0 on) > - Powers : > - Roots : $f(x) = \sqrt[n]{x}$ (if is even then ≥0 on ; if is odd, then true for all values of on .) > - Compositions : Adjust the definitions of and to: Let be continuous on , where the range of on is , and let be continuous on . Then , i.e., (()), is continuous on . -

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