1 | **Reading**

1.1 | **Openstax**

Link

- #define continuity at a point

-
$$\lim_{x \to a} f(x) = f(a)$$

    - 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

1.2 | **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 □. -