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

Exr0n • 2021-2022 Page 1