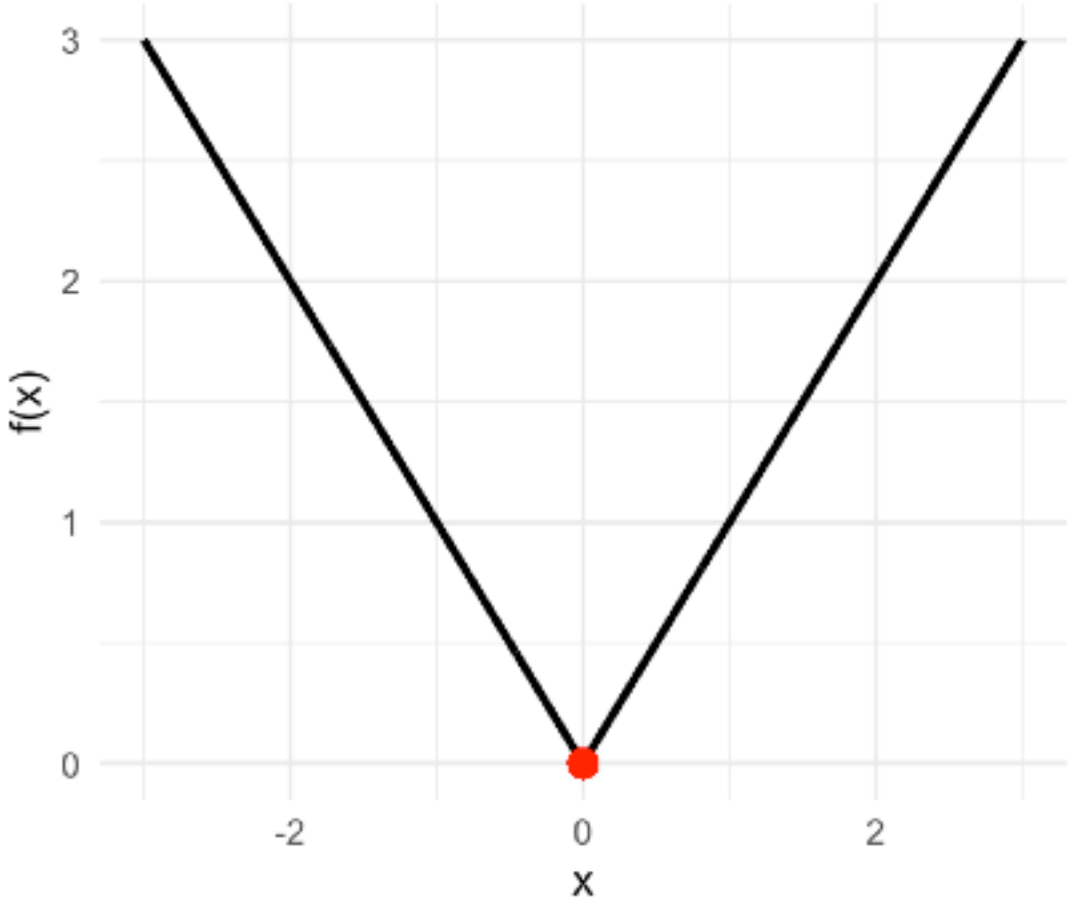
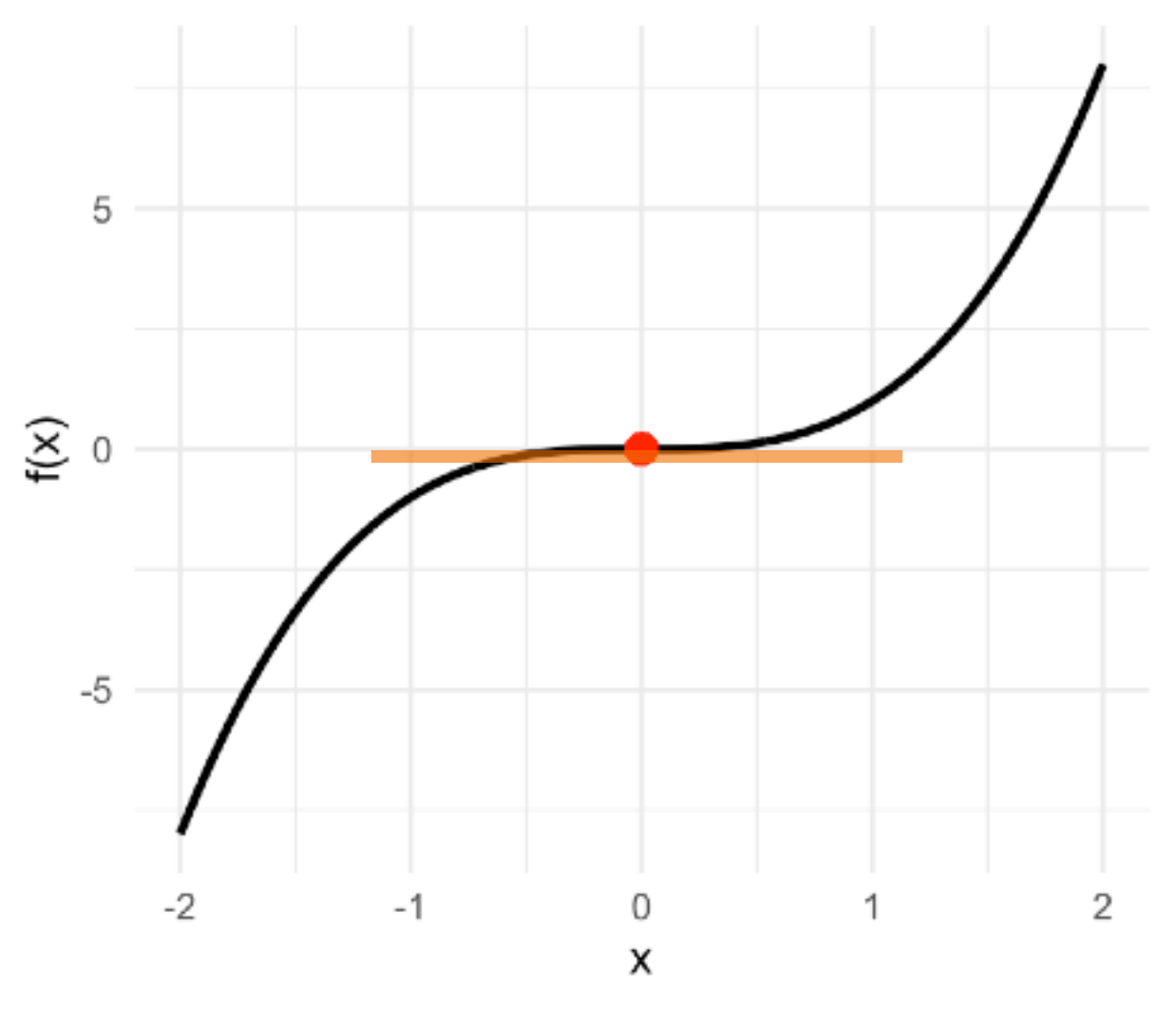
critical point

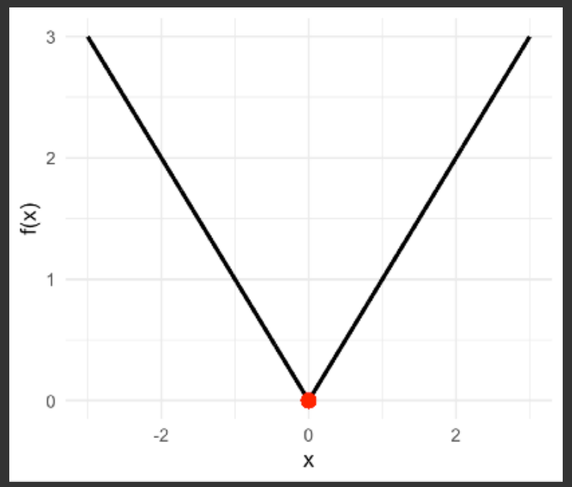
2.5
0.0
-2.5
-5.0
f(x)
-2
0
2
x


3
2
1
0
f(x)
-2
0
2
x


5
0
-5
f(x)
-2
-1
0
1
2
x

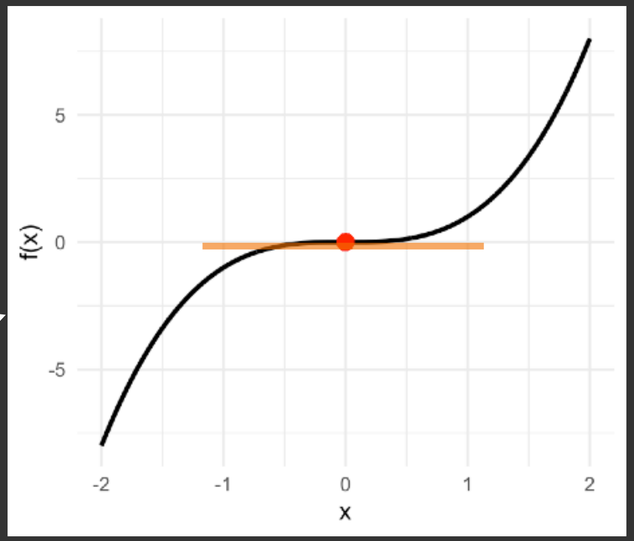
critical point

An interior point of the domain of a function f where f' is zero or undefined is a critical point of f.



If $f(c)$ is a local maximum or minimum, then c is a critical point of $f(x)$

Note: the reverse does not hold, i.e., if $f'(c) = 0$ then $f(c) = 0$ is not necessarily a maximum or minimum.



finding the absolute extrema