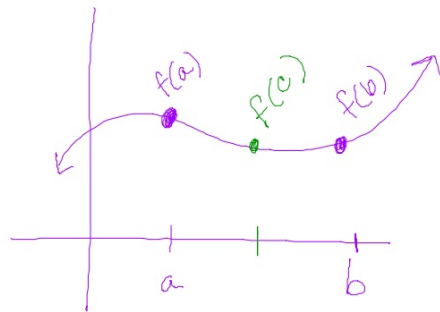


## INTERMEDIATE VALUE THEOREM

IVT

A function  $f(x)$  that is continuous on a closed interval  $[a, b]$  takes on every value between  $f(a)$  and  $f(b)$ .

Draw a graph of the IVT.



Explain why the function has a zero in the interval  $[1, 2]$ :  $f(x) = -2 + 3\sqrt{x-1}$ .

$f(x)$  is continuous on the closed interval  $[1, 2]$

and  $f(2) = 1$  and  $f(1) = -2$

by the IVT there exists at least one value such that  $f(x) = 0$ .

