

Continuity/Intermediate Value Theorem

In today's class we learned the Intermediate Value Theorem (IVT). The Intermediate Value Theorem means that if a function f is continuous on $[a,b]$ and k is any number between $f(a)$ and $f(b)$, there must be a c value between $[a,b]$ such that $f(c)=k$. With the Intermediate Value Theorem it is important to know that you do not end up identifying the exact value of c , you just prove that it exists. Using continuity is the common way of proving the existence of c on its interval $[a,b]$.

We practiced using Intermediate Value Theorem by using real life situations to help us understand how the Intermediate Value theorem proves that if the function is continuous, you WILL have to cross every value in between $f(a)$ and $f(b)$. If the function is continuous, you cannot bypass any values between $f(a)$ and $f(b)$.