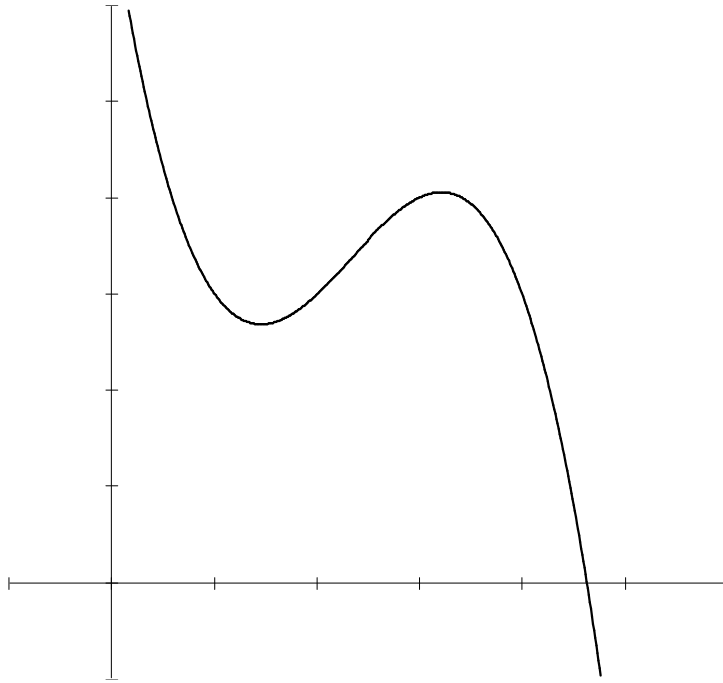


2.8 Intermediate Value Theorem

IVT Intermediate Value Theorem:

If $f(x)$ is continuous on a closed interval $[a, b]$ and $f(a) \neq f(b)$, then for every value M between $f(a)$ and $f(b)$, there exists at least one value c in (a, b) such that $f(c) = M$



Existence of Zeros: If $f(x)$ is continuous on $[a, b]$ and if $f(a)$ and $f(b)$ are nonzero and have opposite signs, then $f(x)$ has a zero in (a, b)

Use the intermediate value theorem to show that the polynomial function $f(x) = x^3 + 2x - 1$ has a zero on $[0,1]$