## MEAN VALUE THEOREM

If $f$ is continuous on the closed interval $[a, b]$ and differentiable on the open interval $(a, b)$, then there exists a number $c$ in $(a, b)$ such that

$$
f^{\prime}(c)=\frac{f(b)-f(a)}{b-a}
$$

Basically, the MVT says ...

| Instantaneous Rate <br> of Change (slope of <br> a tangent line at some <br> point $c$ ) |
| :---: |$=$| Average Rate of <br> Change (slope of <br> secant line joining <br> the endpoints) |
| :---: |



