“Slope = Slope Theorem”

If *f* is a different function on the interval [*a*,*b*] then there exists a number *c* between *a* and *b* such that

*f’*(*c*)=

* Differentiable (has derivative at every pt.) is continuous
* Continuous is not always differentiable
* Slope between the 2 endpoints = slope of line tangent

(b,f(b))

(a,f(a))

a c b

**Example:**

Find the value(s) of c using the Mean Value Theorem for the equation f(x)= on the interval [1,2]

Plug x values into equation

y= y=

y=6-3 y=3-3

y=3 y=0

(1,3) (2,0)

Find Slope

m=

m=

m=

m=-3

Find *f’*(x)

*f*(x)=

*f*(x)=6x-3

*f’*(x)=-6x

*f’*(x)=

*f’*(x)=slope



-3x=-6

x=2

x= x=

**ANSWER:**

x=