The Mean Value Theorem

Name _____

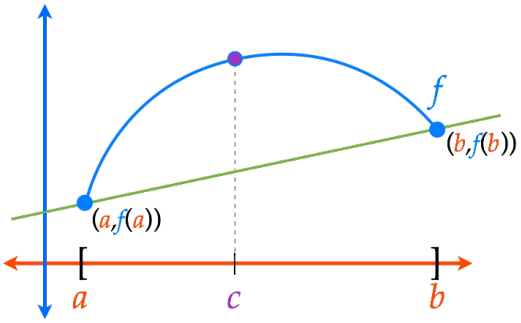
Date _____ Period _____

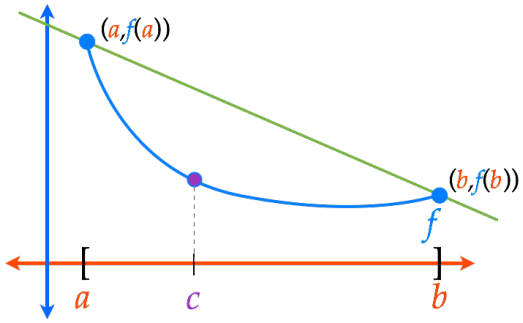
The Mean Value Theorem

Let function f be continuous on $[a,b]$ and differentiable on (a,b).

then there is at least one number c in (a,b) such that…

Slope of Tangent Line at c $\quad f'(c) = \dfrac{f(b) - f(a)}{b - a}$ $\quad$ Slope of Secant Line of f between a and b



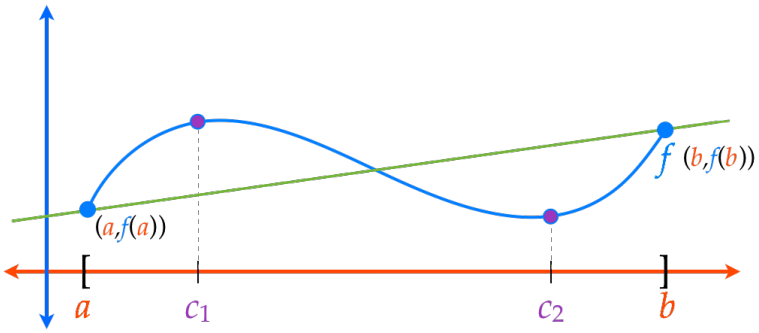


The Mean Value Theorem

Let function f be continuous on $[a,b]$ and differentiable on (a,b).

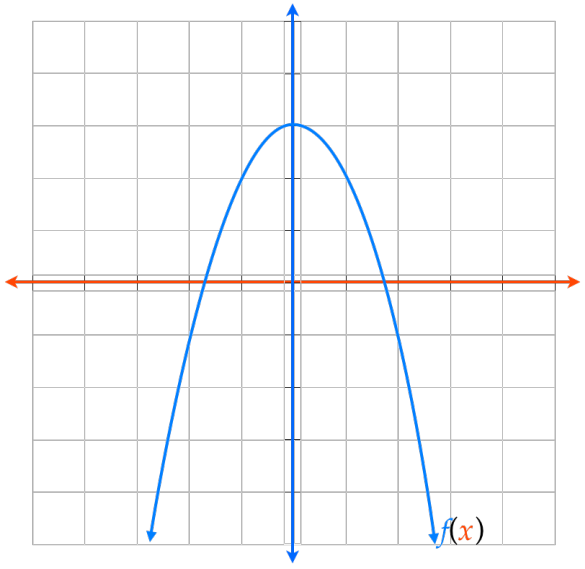
then there is at least one number c in (a,b) such that…

Slope of Tangent Line at c $\quad f'(c) = \dfrac{f(b) - f(a)}{b - a}$ $\quad$ Slope of Secant Line of f between a and b



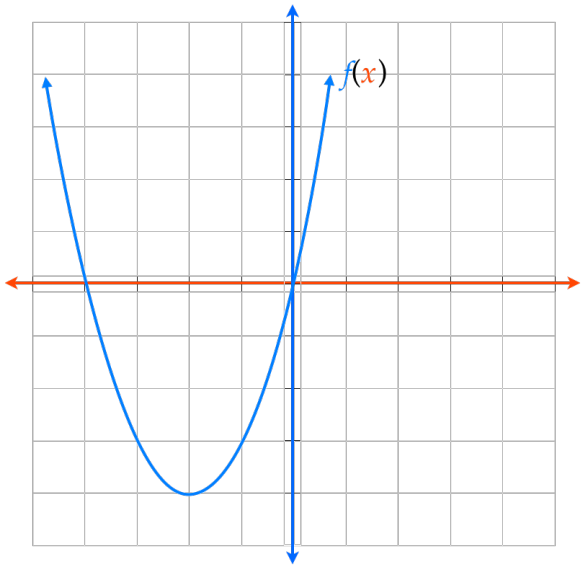
Use the Mean Value Theorem to find the value of c for the following

$f(x) = -x^2 + 3$ on $[0,2]$



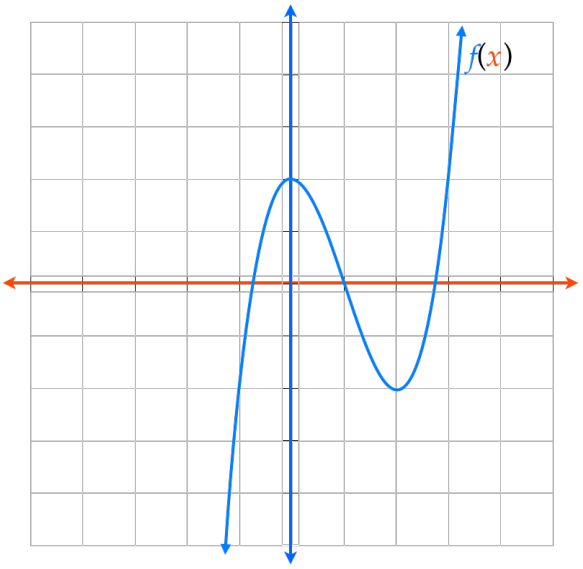
Use the Mean Value Theorem to find the value of c for the following

$f(x) = x^2 + 4x$ on $[-3,0]$



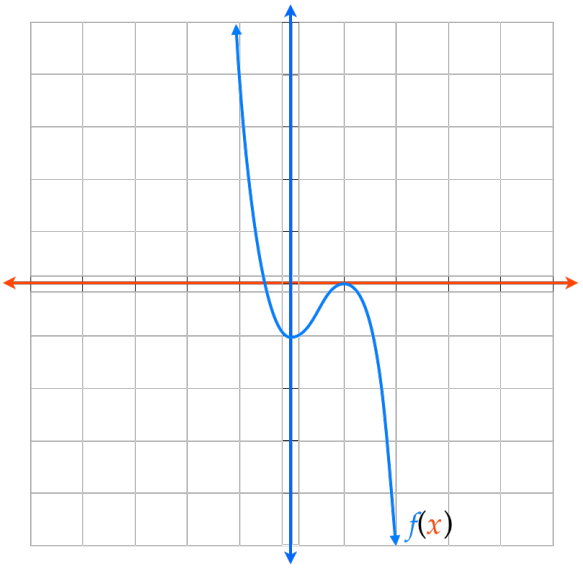
Use the Mean Value Theorem to find the value of c for the following

$f(x) = x^3 - 3x^2 + 2$ on $[-1,3]$



Use the Mean Value Theorem to find the value of c for the following

$f(x) = -2x^3 + 3x^2 - 1$ on $[-1,2]$



© iTutoring.com

The Mean Value Theorem

Let function f be continuous on $[a,b]$ and differentiable on (a,b).

then there is at least one number c in (a,b) such that…

Slope of Tangent Line at c $\quad f'(c) = \dfrac{f(b) - f(a)}{b - a}$ $\quad$ Slope of Secant Line of f between a and b