Math 201

Section 5.8 Average Value of a Function and its Applications

The average value of f on the interval $[a, b]$ is

$$f_{ave} = \frac{1}{b-a} \int_a^b f(x)dx.$$

The Mean Value Theorem for Integrals If f is continuous on $[a, b]$, then there exists a number c in $[a, b]$ such that

$$f(c) = f_{ave} = \frac{1}{b-a} \int_a^b f(x)dx.$$