UYGULAMA 3

$$\left| \int_a^b f(x)\,dx \right| \leq \int_a^b |f(x)|\,dx$$

$$\left[\begin{array}{cc} a & b \\ c & d \end{array} \right), \left| \begin{array}{cc} a & b \\ c & d \end{array} \right|, \left\| \begin{array}{cc} a & b \\ c & d \end{array} \right\}, \left[\begin{array}{cc} a & b \\ c & d \end{array} \right]$$

$$|x| = \begin{cases} x & x \geq 0 \text{ ise} \\ -x & x \leq 0 \text{ ise} \end{cases}, \quad f(x) = \begin{cases} x & x > 1 \quad \text{ise} \\ x^2 & 0 \leq x \leq 1 \quad \text{ise} \\ \sin x & x < 0 \quad \text{ise} \end{cases}$$

$$\int_a^b x^3\,dx = \left. \frac{x^4}{4} \right|_a^b = \frac{b^4 - a^4}{4}$$

BAZI İNTEGRAL FORMÜLLERİ

1. $\displaystyle\int x^a\,dx = \begin{cases} \frac{x^{a+1}}{a+1} + C & a \neq -1 \\ \ln|x| + C & a = -1 \end{cases}$
2. $\displaystyle\int \frac{1}{\sqrt{1-x^2}}\,dx = \sin^{-1} x + C$
3. $\displaystyle\int \frac{1}{1+x^2}\,dx = \tan^{-1} x + C$
4. $\displaystyle\int \frac{1}{|x|\sqrt{x^2-1}}\,dx = \sec^{-1} x + C$