Basic Integration Formulas

- $\int x^n \, dx = \frac{x^{n+1}}{n+1} + c$
- $\int a \, dx = ax + c$
- $\int e^x \, dx = e^x + c$
- $\int \frac{1}{x} \, dx = log|x| + c$
- $\int a^x \, dx = \frac{a^x}{log|x|} + c$
- $\int e^x [\, f(x) + f'(x) \,] \, dx = e^x . f(x) + c$

KUNDUZ

Trigonometric Functions - Integration Formulas

- $\int cosx \, dx = sinx + c$
- $\int sinx \, dx = - cosx + c$
- $\int sec^2 x \, dx = tanx + c$
- $\int cosec^2 \, dx = - cotx + c$
- $\int secx \, tanx \, dx = secx + c$

- $\int cosecx\ cotx\ dx = -cosecx + c$
- $\int tanx\ dx = log|secx| + c$
- $\int cotx\ dx = log|sinx| + c$
- $\int secx\ dx = log|secx + tanx| + c$
- $\int cosecx\ dx = log|cosecx - cotx| + c$

Inverse Trigonometric Functions - Integration Formulas

KUNDUZ

- $\int \frac{1}{\sqrt{1-x^2}}\ dx = sin^{-1}x + c$
- $\int \frac{1}{\sqrt{1-x^2}}\ dx = -cos^{-1}x + c$
- $\int \frac{1}{1+x^2}\ dx = tan^{-1}x + c$
- $\int \frac{1}{1+x^2}\ dx = -cot^{-1}x + c$
- $\int \frac{1}{x\sqrt{x^2-1}}\ dx = sec^{-1}x + c$
- $\int \frac{1}{x\sqrt{x^2-1}}\ dx = -cosec^{-1}x + c$

Special Integration Formula

- $\int \frac{1}{x^2 - a^2}\, dx = \frac{1}{2a}\, log \left| \frac{x - a}{x + a} \right| + c$
- $\int \frac{1}{a^2 - x^2}\, dx = \frac{1}{2a}\, log \left| \frac{a + x}{a - x} \right| + c$
- $\int \frac{1}{x^2 + a^2}\, dx = \frac{1}{a}\, tan^{-1} \frac{x}{a} + c$
- $\int \frac{1}{\sqrt{x^2 - a^2}}\, dx = log \left| x + \sqrt{x^2 - a^2} \right| + c$
- $\int \frac{1}{\sqrt{x^2 + a^2}}\, dx = log \left| x + \sqrt{x^2 + a^2} \right| + c$
- $\int \frac{1}{\sqrt{a^2 - x^2}}\, dx = sin^{-1} \frac{x}{a} + c$
- $\int \sqrt{x^2 - a^2}\, dx = \frac{x}{2} \sqrt{x^2 - a^2} - \frac{a^2}{2} log \left| x + \sqrt{x^2 - a^2} \right| + c$
- $\int \sqrt{x^2 + a^2}\, dx = \frac{x}{2} \sqrt{x^2 + a^2} + \frac{a^2}{2} log \left| x + \sqrt{x^2 + a^2} \right| + c$
- $\int \sqrt{a^2 - x^2}\, dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} sin^{-1} \frac{x}{a} + c$

KUNDUZ