ΠΙΝΑΚΑΣ ΟΡΙΣΜΕΝΩΝ ΟΛΟΚΛΗΡΩΜΑΤΩΝ

1) $\int_a^\beta 1\,dx = [x]_a^\beta$

2) $\int_a^\beta x\,dx = \left[\frac{x^2}{2}\right]_a^\beta$

3) $\int_a^\beta x^\nu\,dx = \left[\frac{x^{\nu+1}}{\nu+1}\right]_a^\beta \quad \nu \in \mathbb{N}^*$

4) $\int_a^\beta x^\lambda\,dx = \left[\frac{x^{\lambda+1}}{\lambda+1}\right]_a^\beta \quad \lambda \in \mathbb{R},\ \lambda \neq -1$

5) $\int_a^\beta \frac{1}{x}\,dx = [\ln|x|]_a^\beta$

6) $\int_a^\beta e^x\,dx = [e^x]_a^\beta$

7) $\int_a^\beta \sigma\upsilon\nu x\,dx = [\eta\mu x]_a^\beta$

8) $\int_a^\beta \eta\mu x\,dx = [-\sigma\upsilon\nu x]_a^\beta$

9) $\int_a^\beta \frac{1}{\sigma\upsilon\nu^2 x}\,dx = [\varepsilon\varphi x]_a^\beta$

10) $\int_a^\beta \frac{1}{\eta\mu^2 x}\,dx = [-\sigma\varphi x]_a^\beta$

11) $\int_\kappa^\lambda a^x\,dx = \left[\frac{a^x}{\ln a}\right]_\kappa^\lambda$

12) $\int_a^b \eta\mu(kx)\,dx = -\frac{1}{k}\left[\cos kx\right]_a^b$

13) $\int_a^b \eta\mu(kx+\eta)\,dx = -\frac{1}{k}\left[\cos(kx+\eta)\right]_a^b$

14) $\int_a^b \cos(kx)\,dx = \frac{1}{k}\left[\eta\mu(kx)\right]_a^b$

15) $\int_a^b \cos(kx+\eta)\,dx = \frac{1}{k}\left[\eta\mu(kx+\eta)\right]_a^b$

16) $\int_a^b \frac{1}{\cos^2(kx)}\,dx = \frac{1}{k}\left[\varepsilon\varphi(kx)\right]_a^b$

17) $\int_a^b \frac{1}{\cos^2(kx+\eta)}\,dx = \frac{1}{k}\left[\varepsilon\varphi(kx+\eta)\right]_a^b$

18) $\int_a^b \frac{1}{\eta\mu^2(kx)}\,dx = -\frac{1}{k}\left[\sigma\varphi(kx)\right]_a^b$

19) $\int_a^b \frac{1}{\eta\mu^2(kx+\eta)}\,dx = -\frac{1}{k}\left[\sigma\varphi(kx+\eta)\right]_a^b$

20) $\int_k^\eta a^{\mu x}\,dx = \frac{1}{\mu}\left[\frac{a^{\mu x}}{\ell\eta a}\right]_k^\eta \qquad a>0,\ a\neq 1$

21) $\int_k^\eta a^{\mu x+\nu}\,dx = \frac{1}{\mu}\left[\frac{a^{\mu x+\nu}}{\ell\eta a}\right]_k^\eta \qquad a>0,\ a\neq 1$

22) $\int_a^b e^{kx}\,dx = \frac{1}{k}\left[e^{kx}\right]_a^b$

23) $\int_a^b e^{kx+1}\,dx = \frac{1}{k}\left[e^{kx+1}\right]_a^b$

24) $\int_k^7 f^{\alpha}(x)\cdot f'(x)\,dx = \left[\frac{f^{\alpha+1}(x)}{\alpha+1}\right]_k^7 \qquad \alpha\in\mathbb{R},\ \alpha\neq -1$

25) $\int_a^b \frac{f'(x)}{f(x)}\,dx = \left[\ln|f(x)|\right]_a^b$

26) $\int_a^b \frac{f'(x)}{f^2(x)}\,dx = \left[-\frac{1}{f(x)}\right]_a^b$

27) $\int_a^b f'(x)\,dx = \left[f(x)\right]_a^b$

28) $\int_a^b f'(g(x))\cdot g'(x)\,dx = \left[f(g(x))\right]_a^b$

29) $\int_a^b e^{f(x)}\cdot f'(x)\,dx = \left[e^{f(x)}\right]_a^b$

30) $\int_k^7 a^{f(x)}\cdot f'(x)\,dx = \left[\frac{a^{f(x)}}{\ln a}\right]_k^7$

31) $\int_\alpha^b \eta\mu f(x)\cdot f'(x)\,dx = \left[-\sigma\upsilon f(x)\right]_\alpha^b$

32) $\int_a^b \sigma\upsilon f(x)\cdot f'(x)\,dx = \left[\eta\mu f(x)\right]_a^b$