Υπολογισμός βασικών ολοκληρωμάτων

$$\int_a^\beta c\,\mathrm{d}x = [cx]_a^\beta = c(\beta - a)$$

$$\int_a^\beta x\,\mathrm{d}x = \left[\frac{x^2}{2}\right]_a^\beta = \frac{\beta^2}{2} - \frac{a^2}{2}$$

$$\int_a^\beta x^\nu\,\mathrm{d}x = \left[\frac{x^{\nu+1}}{\nu+1}\right]_a^\beta = \frac{\beta^{\nu+1}}{\nu+1} - \frac{a^{\nu+1}}{\nu+1}$$

$$\int_a^\beta \frac{1}{2\sqrt{x}}\mathrm{d}x = \left[\sqrt{x}\right]_a^\beta = \sqrt{\beta} - \sqrt{a}$$

$$\int_a^\beta \sqrt[\nu]{x^\nu}\mathrm{d}x = \left[\frac{x^{\frac{\mu}{\nu}+1}}{\frac{\mu}{\nu}+1}\right]_a^\beta = \frac{\beta^{\frac{\mu}{\nu}+1}}{\frac{\mu}{\nu}+1} - \frac{a^{\frac{\mu}{\nu}+1}}{\frac{\mu}{\nu}+1}$$

$$\int_a^\beta \frac{1}{x^2}\mathrm{d}x = \left[-\frac{1}{x}\right]_a^\beta = -\frac{1}{\beta} + \frac{1}{a}$$

$$\int_a^\beta \eta\mu x\,\mathrm{d}x = [-\sigma\upsilon\nu x]_a^\beta = -\sigma\upsilon\nu\beta + \sigma\upsilon\nu a$$

$$\int_a^\beta \sigma\upsilon\nu x\,\mathrm{d}x = [\eta\mu x]_a^\beta = \eta\mu\beta - \eta\mu a$$

$$\int_a^\beta \frac{1}{\sigma\upsilon\nu^2 x}\mathrm{d}x = [\varepsilon\varphi x]_a^\beta = \varepsilon\varphi\beta - \varepsilon\varphi a$$

$$\int_a^\beta \frac{1}{\eta\mu^2 x}\mathrm{d}x = [-\sigma\varphi x]_a^\beta = -\sigma\varphi\beta + \sigma\varphi a$$

$$\int_a^\beta e^x\,\mathrm{d}x = [e^x]_a^\beta = e^\beta - e^a$$

$$\int_a^\beta \mu^x\,\mathrm{d}x = \left[\frac{\mu^x}{\ln a}\right]_a^\beta = \frac{\mu^\beta}{\ln\mu} - \frac{\mu^a}{\ln\mu}$$

$$\int_a^\beta \frac{1}{x}\mathrm{d}x = [\ln|x|]_a^\beta = \ln|\beta| - \ln|a|$$