Taylorovi redovi elementarnih funkcija

$$e^z = \sum_{n=0}^{\infty} \frac{z^n}{n!} \qquad R = \infty$$

$$\sin z = \sum_{n=0}^{\infty} (-1)^n \frac{z^{2n+1}}{(2n+1)!} \qquad R = \infty$$

$$\cos z = \sum_{n=0}^{\infty} (-1)^n \frac{z^{2n}}{(2n)!} \qquad R = \infty$$

$$\operatorname{sh} z = \sum_{n=0}^{\infty} \frac{z^{2n+1}}{(2n+1)!} \qquad R = \infty$$

$$\operatorname{ch} z = \sum_{n=0}^{\infty} \frac{z^{2n}}{(2n)!} \qquad R = \infty$$

$$\ln(1+z) = \sum_{n=1}^{\infty} (-1)^{n-1} \frac{z^n}{n} \qquad R = 1$$

$$(1+z)^\alpha = \sum_{n=0}^{\infty} \binom{\alpha}{n} z^n \qquad R = 1$$

$$\frac{1}{1-z} = \sum_{n=0}^{\infty} z^n \qquad R = 1$$

$$\frac{1}{1+z} = \sum_{n=0}^{\infty} (-1)^n z^n \qquad R = 1$$

Möbiusova transformacija

Neka je

$$\begin{aligned} S(z_1) &= w_1 \\ S(z_2) &= w_2 \\ S(z_3) &= w_3. \end{aligned}$$

Tada Möbiusova transformacija $w = S(z)$ ima oblik

- $\dfrac{w-w_1}{w-w_2} : \dfrac{w_3-w_1}{w_3-w_2} = \dfrac{z-z_1}{z-z_2} : \dfrac{z_3-z_1}{z_3-z_2}$ za $z_i, w_i \neq \infty,\ i = 1,2,3$
- $S(z) = \dfrac{az+b}{z-z_i}$ za $S(z_i) = \infty$
- $S(z) = w_i \dfrac{z+\alpha}{z+\beta}$ za $z_i = \infty,\ S(z_i) = w_i$
- $S(z) = az + b$ za $z_i = \infty,\ w_i = \infty$