89 b

$A(0,0,\infty) = \mathbb{C} \setminus \{0\}$

$$f(z) = (z^2+1)\, e^{\frac{1}{z}}$$

$\frac{1}{z}$ - dowolne, czyli $z \neq 0$

$\overset{0}{\times}$

$$f(z) = (z^2+1)\, e^{1/z} = (z^2+1) \sum_{n=0}^{\infty} \frac{1}{z^n\, n!} =$$

$$= \sum_{n=0}^{\infty} \frac{1}{n!} \cdot z^{-n+2} + \sum_{n=0}^{\infty} \frac{1}{n!} z^{-n} =$$

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

$$= \sum_{n=0}^{\infty} z^{-n} \left(\frac{1}{n!} + \frac{1}{(n+2)!} \right) + z^1 \cdot \underbrace{\frac{1}{1!}}_{=1} + z^2 \cdot \underbrace{\frac{1}{0!}}_{=1} =$$

$$= \sum_{n=-\infty}^{0} z^{n} \cdot \frac{+n^2-3n+3}{(-n+2)!} + z + z^2$$

$$\left\{ \frac{1}{n!} + \frac{1}{(n+2)!} = \frac{(n+2)(n+1)+1}{(n+2)!} = \frac{n^2+3n+3}{(n+2)!} \right\}$$