

$$c) \varphi^{-1}(z) = \frac{z}{(z+1)^2} = g_1$$

$$g(z) = (z+i)^2$$

$$\varphi^{-1}(z) = (g_1 \circ g_2)^{-1}(z) = (g_2^{-1} \circ g_1^{-1})(z) = g_2^{-1}(g_1^{-1}(z))$$

gdzie  $g_1(z) = z^2$

$$g_2(z) = z+i$$

~~Wzrost~~  $2k\pi + 0 \leq \text{Arg } z^2 \leq \frac{\pi}{4} + 2k\pi$

$$2k\pi + 0 \leq 2 \text{Arg } z \leq \frac{\pi}{4} + 2k\pi$$

$$k\pi \leq \text{Arg } z \leq \frac{\pi}{8} + k\pi$$

$$k=0 \quad 0 \leq \text{Arg } z \leq \frac{\pi}{8}$$

$$k=1 \quad \pi \leq \text{Arg } z \leq \frac{9\pi}{8}$$

$g_2(z) = z+i$  - oznacza przesunięcie wyzniesu  $0-i$

