

[3] 続き

(3) $|z|=1$ 内にある $f(z)$ の特異点は

$$z=0, z=3-2\sqrt{2}$$

 \therefore

$$I_2 = 2\pi i \left(\text{Res}[0] + \text{Res}[3-2\sqrt{2}] \right)$$

$$= 2\pi i (6 - 4\sqrt{2})$$

$$I_1 = \frac{1}{2i} I_2$$

$$= (6 - 4\sqrt{2})\pi$$