

$$\int_C \frac{1}{z - z_0} dz = ? \text{ 路徑 } C : |z - z_0| = \rho, \text{ 逆時針方向。 [104 東海電機 6]}$$

[解]在C上， $z = z_0 + \rho e^{i\theta} \Rightarrow dz = i\rho e^{i\theta} d\theta$

$$\oint_C \frac{dz}{z - z_0} = \int_0^{2\pi} \frac{i\rho e^{i\theta} d\theta}{\rho e^{i\theta}} = \int_0^{2\pi} i d\theta = 2\pi i$$



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