



[Degree]

$$\oint_C d(\log f) = \oint_C \frac{df}{f} = -2 \oint_C \frac{1}{z - p} dz$$

$$\xrightarrow[z \in [0, 2\pi]]{z = p + e^{it}} -2 \oint_{[0, 2\pi]} (e^{-it}) (ie^{it} dt) = -2i \oint_{[0, 2\pi]} 1 dt = 2\pi i \cdot (-2)$$