



[Degree]

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

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