$$\mathbb{C} \supset K \text{ comp}$$

$$\partial K \text{ stw glatt}$$

$$\daleth \in {}^{K}\triangleright_{\infty}\mathbb{C} \Longrightarrow \int_{dw}^{\partial K} {}^{w}\daleth = 2i \int_{dxdy}^{K} \bar{\partial}_z \daleth = \int_{d\overset{*}{z}\,dz}^{K} \bar{\partial}_z \daleth$$

$$z = x + iy \Longrightarrow \begin{cases} 2idx \times dy = \underbrace{dx - idy} \times \underbrace{dx + idy} = d\overset{*}{z} \times dz \\ 2idxdy = d\overset{*}{z}dz \end{cases}$$

$$d\,(\daleth dz) = d\daleth \times dz = \left(\partial_z \daleth dz + \bar{\partial}_z \daleth d\overset{*}{z}\right) \times dz = \bar{\partial}_z \daleth d\,\overset{*}{z} \times dz = 2i\,\bar{\partial}_z \daleth dx \times dy$$

$$d\,(\daleth dz) = d\,(\daleth dx + i\daleth dy) = \partial_y \daleth dy \times dx + i\,\partial_x \daleth dx \times dy = \left(i\partial_x \daleth - \partial_y \daleth\right) dx \times dy$$

$$\daleth \in {}^{a||b}\triangleright_{\infty}\mathbb{C} \Longrightarrow \int_{dw}^{\partial a||b} \daleth = 2i \int_{dxdy}^{a||b} \bar{\partial}_z \daleth = \int_{d\overset{*}{z}\,dz}^{a||b} \bar{\partial}_z \daleth$$

$$2i \int_{dxdy}^{a||b} \bar{\partial}_z \daleth = \int_{dxdy}^{a||b} \left(i\partial_x \daleth - \partial_y \daleth\right) = i \int_{dy}^{\mathcal{I}a|\mathcal{I}b} \int_{dx}^{\Re a|\Re b} \partial_x \daleth - \int_{dx}^{\Re a|\Re b} \int_{dy}^{\mathcal{I}a|\mathcal{I}b} \partial_y \daleth =$$

$$i \int_{dy}^{\mathcal{I}a|\mathcal{I}b} \underbrace{{}^{\Re b + iy}\daleth - {}^{\Re a + iy}\daleth} - \int_{dx}^{\Re a|\Re b} \underbrace{{}^{x + i\mathcal{I}b}\daleth - {}^{x + i\mathcal{I}a}\daleth} = \int_{dw}^{\partial a||b} \daleth$$

$$\mathbb{C} \supset \underset{\sim}{\tilde{\mathbb{C}}}_{\varrho:R} \text{ comp}$$

$$\tilde{\mathbb{C}}_{\varrho:R} \text{ stwglatt}$$

$$\text{ɿ} \in {}^{\widetilde{\mathbb{C}}}{}_{\varrho:R} \underset{\infty}{\triangle} \mathbb{C} \Longrightarrow \int_{dw}^{\widetilde{\mathbb{C}}_{\varrho:R}} \text{ɿ} = 2i \int_{dxdy}^{\widetilde{\mathbb{C}}_{\varrho:R}} \bar{\partial}_z \text{ɿ} = \int_{d\overset{*}{z}\,dz}^{\widetilde{\mathbb{C}}_{\varrho:R}} \bar{\partial}_z \text{ɿ}$$

$$z = x + iy = o + r\,{}^{it}\mathfrak{e} = o + r\,{}^{t}\mathfrak{c} + ir\,{}^{t}\mathfrak{s}$$

$$\partial_r \text{ɿ} = \underbrace{\partial_x \text{ɿ}}\,\underbrace{\partial_r x} + \underbrace{\partial_y \text{ɿ}}\,\underbrace{\partial_r y} = \underbrace{\partial_x \text{ɿ}}\,{}^{t}\mathfrak{c} + \underbrace{\partial_y \text{ɿ}}\,{}^{t}\mathfrak{s}$$

$$\partial_t \text{ɿ} = \underbrace{\partial_x \text{ɿ}}\,\underbrace{\partial_t x} + \underbrace{\partial_y \text{ɿ}}\,\underbrace{\partial_t y} = -r\underbrace{\partial_x \text{ɿ}}\,{}^{t}\mathfrak{s} + r\underbrace{\partial_y \text{ɿ}}\,{}^{t}\mathfrak{c}$$

$$\partial_r \text{ɿ} + \frac{i}{r}\underbrace{\partial_t \text{ɿ}} = \underbrace{\partial_x \text{ɿ}}\,\underbrace{{}^{t}\mathfrak{c} - i\,{}^{t}\mathfrak{s}} + i\underbrace{\partial_y \text{ɿ}}\,\underbrace{{}^{t}\mathfrak{c} - i\,{}^{t}\mathfrak{s}} = 2\underbrace{\bar{\partial}_z \text{ɿ}}\,e^{-it}$$

$$\Longrightarrow 2ir\underbrace{\bar{\partial}_z \text{ɿ}} = i\,e^{it}\underbrace{r\partial_r \text{ɿ} + i\partial_t \text{ɿ}} = ir\,e^{it}\underbrace{\partial_r \text{ɿ}} - e^{it}\underbrace{\partial_t \text{ɿ}} = i\,e^{it}\overbrace{\partial_r \underbrace{r\text{ɿ}}} - \partial_t \underbrace{e^{it}\text{ɿ}}$$

$$2i\int_{dxdy}^{\widetilde{\mathbb{C}}_{\varrho:R}} \bar{\partial}_z \text{ɿ} = 2i\int_{rdr}^{\varrho|R}\int_{dt}^{0|2\pi} \bar{\partial}_z \text{ɿ} = i\int_{dt}^{0|2\pi} e^{it}\int_{dr}^{\varrho|R} \partial_r \underbrace{r\text{ɿ}} - \int_{dr}^{\varrho|R}\int_{dt}^{0|2\pi} \partial_t \underbrace{e^{it}\text{ɿ}} \underset{\text{HS}}{=}$$

$$i\int_{dt}^{0|2\pi} e^{it}\,\underbrace{r\text{ɿ}}_{\varrho}^{R} - \int_{dr}^{\varrho|R} \underbrace{\underbrace{e^{it}\text{ɿ}}_{0}^{2\pi}}_{=0} = i\int_{dt}^{0|2\pi} e^{it}\,\underbrace{R^{o+Re^{it}}\text{ɿ} - \varrho^{o+\varrho e^{it}}\text{ɿ}} = \int_{dw}^{\widetilde{\mathbb{C}}_{\varrho:R}} \text{ɿ}$$