Ω
f
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f
D
$f(z)1, f(0) =$
0
$f(z)z$
$f'(0)1$
$z \in$
D
$f(z) =$
z
or
$f'(0) =$
1
$c \in$
C
$c =$
1
$f(z) =$
cz
$g(z) = \{ f\ (z)/zz \in D \backslash \{0\} f'(0)z = 0$

0
$f(z) =$
$zg(z)$
$g(z) = f(z)1 forallz \in \partial D$

$g(z)1$
$f(z)z$
g
1
$f :$
$D \to$
C
$f(z)1$
$z1$
$f(z_0) =$
w_0

$$\frac{f(z) - f(z_0)}{1 - \overline{f(z_0)}f(z)} \frac{z - z_0}{1 - \overline{z_0}z}$$

$$\frac{f'(z)}{1 - f(z)^2} \frac{1}{1 - z^2}.$$

$S :$
$w \mapsto$
$(w-$
$w_0)/(1-$
$\overline{w_0}w)$
$T :$
$z \mapsto$
$(z-$
$z_0)/(1-$
$\overline{z_0}z)$
$w_0 =$
$f(z_0)$
$S\circ$
$f\circ$
T^{-1}
f
$f1$
D
$Poincare$

$$d(z, z_0) = \frac{z - z_0}{1 - \overline{z_0}z}.$$

$f1$
$d(f(z_0, f(z_2)) d(z_1, z_2).$

$\gamma_1, ..., \gamma_n$

$$\int_{\sum \gamma_i} f\ \mathrm{d}z = \sum_{i=1}^{n} \int_{\gamma_i} f\ \mathrm{d}z.$$

$\gamma :=$
$\sum \gamma_i$
chain
$ev-$
ery
f