

Panel 16

Homework:

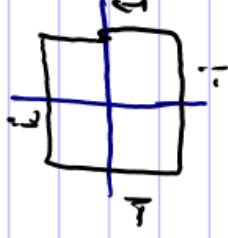
① Find  $\int_{C^+(0)} f(z) dz$  for

a)  $f(z) = \frac{z}{z^2+2}$

b)  $f(z) = \frac{1}{z^2+2z+2}$

c)  $f(z) = \tan(z)$

② Find  $\int_C z^{-1} dz$  where  $C$  is



③ Find  $\int_C \frac{2z-1}{z^2-z} dz$  where

a)  $C = C_2^+(0) = \{z: |z|=2\}$

b)  $C = C_{1/2}^+(0) = \{z: |z|=1/2\}$

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$$(4) \text{ Evaluate } \int_C (4z^2 + 4z - 3)^{-1} dz = \int_C (2z-1)^{-1} (2z+3)^{-1} dz$$

where

$$a) C = C_1^+(0) \quad b) C = C_1^+(-\frac{2}{3}) \quad c) C = C_3^+(0)$$

$$(5) \text{ Evaluate } \int_C (z^2-1)^{-1} dz \text{ for}$$



$$(6) \text{ Find } \int_{C_1^+(0)} |z|^2 e^z dz$$