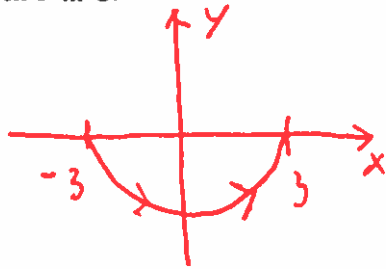


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Quiz #6

1. Let Γ be the curve in \mathbb{C} parametrized by $z(t) = 3e^{it}$ for $t \in (\pi, 2\pi)$.
(a) Sketch Γ in \mathbb{C} .



- (b) Compute the following integral

$$\int_{\Gamma} e^z dz.$$

$$\int_{\Gamma} e^z dz = e^z \Big|_{-3}^3 = e^3 - e^{-3}$$

- (c) Compute the following integral

$$\int_{\Gamma} \bar{z} dz.$$

$$\int_{\Gamma} = \int_{\pi}^{2\pi} 3e^{-it} \cdot 3ie^{it} dt = 9\pi i.$$