

Quiz IV

Exercise 1. Evaluate the following integral:

$$\int_1^3 \left(\frac{1}{t} - i \right)^2 dt.$$

Exercise 2. Let C denote the semicircular path

$$z = 2e^{i\theta} \quad (0 \leq \theta \leq \pi/2).$$

Sketch the path and determine its endpoints z_0 and z_1 . Compute the contour integral

$$\int_C z^{1/2} dz.$$