

**Exercise.**

- Review [Logarithm Functions](#) handout, which is posted on the course homepage but also linked for your convenience.
- Let the path  $\gamma$  be join of the three line segments:  $[1-i, 1+i]$  and  $[1+i, -1+i]$  and  $[-1+i, -1-i]$ , as indicated below in Figure 1. Evaluate

$$\int_{\gamma} \frac{dz}{z}$$

by using an appropriate branch of  $\log z$ .

Be sure to specify the branch (or equiv., branch cut) you use.

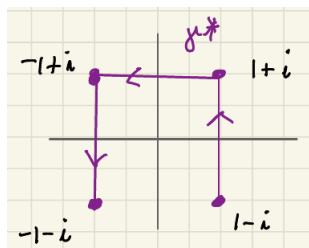


FIGURE 1.  $\gamma^*$