

Exercise. Compute

$$\int_0^{2\pi} e^{\cos t} [\cos(t + \sin t)] dt \quad \text{and} \quad \int_0^{2\pi} e^{\cos t} [\sin(t + \sin t)] dt$$

by computing $\int_{\gamma} e^z dz$ where $\gamma: [0, 2\pi] \rightarrow \mathbb{C}$ is given by $\gamma(t) := e^{it}$.