Math 704

Your Last Names HW: Complex Analysis 9

Exercise. Compute

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

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