1. Consider the parametric curve $x=t \cos (t), y=t \sin (t)$. Find $\frac{d y}{d x}$.
2. Consider the parametric curve $x=t^{2}+t, y=t \ln (t)$. Find $\frac{d y}{d x}$.
3. Consider the parametric curve $x=\sin (t), y=\cos \left(e^{t}\right)$. Find $\frac{d y}{d x}$.
4. Consider the parametric curve $x=t+\cos (t), y=\sin \left(e^{t}\right)$. Find $\frac{d y}{d x}$.
