1. Given the parameter curve 

\[ x = \sin t, \quad y = \sin 2t. \]

Find: The points on the curve where the tangent line is horizontal.

2. Find the area bounded by each loop of the curve with equation \( r = 1 + 2 \sin \theta \).
3. Given the parametric curve

\[ x = e^{3t}, \quad y = e^{-t}; \quad 0 \leq t \leq \ln 2. \]

1. Find the area of the region that lies between the curve and the x-axis;

2. Find the volume obtained by revolving the curve around the x-axis.