1. Eliminating the parameter, find the Cartesian equation of the following curve.
   \[ x = t^2 - 1, \quad y = t^3 + 1, \quad t \geq 0. \]

2. Find the area of the region enclosed by the curve
   \[ x = t^2 - t, \quad y = t^3, \]
   and the y-axis.

3. For the curve given by the polar equation \( r = 1 + 2 \cos \theta \),
   (a) Sketch the curve.
   (b) Find the area of the region enclosed by the inner loop.