1. (10 pts.) Consider the initial value problem

\[ \frac{dy}{dt} = 2y + t, \quad y(2) = 3. \]

Use Euler’s method with two steps of size \( \Delta t = 0.5 \) to estimate \( y(3) \).
2. (10 pts.) Consider the region in the xy-plane bounded by the graphs of $y = x^2 - 3x + 3$ and $y = -x + 3$. Find the area of this region.