

10 pts

Q. Consider a period signal  $x(t)$  with a frequency  $\omega_0 = 2\pi$  has period  $x_1(t) = t[u(t) - u(t-1)]$

- ① Plot  $x(t)$ , and indicate its fundamental period  $T_0$ .
- ② Compute the Fourier series coefficients of  $x(t)$  using its integral definition.

$$\int x e^{ax} dx = \frac{e^{ax}}{a^2} (ax - 1)$$