Tutorial

Question 1

3.1. Find the Laplace transform of

(a) $x(t) = -e^{-at}u(-t)$

(b) $x(t) = e^{at}u(-t)$

Question 2

3.3. Let

$$x(t) = \begin{cases} e^{-at} & 0 \le t \le T \\ 0 & \text{otherwise} \end{cases}$$

Find the Laplace transform of x(t)

Question 3

3.5. Find the Laplace transform $X(s)$ and sketch the pole-zero plot with the ROC for the following signals $x(t)$:

(a) $x(t) = e^{-2t}u(t) + e^{-3t}u(t)$

(b) $x(t) = e^{-3t}u(t) + e^{2t}u(-t)$

(c) $x(t) = e^{2t}u(t) + e^{-3t}u(-t)$