

HW 6.2 (p. 149) #2 (b, d, e, f, i, j, n)

Properties of Laplace Transform



1. Inverse Laplace Transform: $\mathcal{L}^{-1}\{F\} = f$ recovers the continuous function f when F is given.

2. Linearity: $\mathcal{L}\{c_1 f_1 + c_2 f_2\} = c_1 \mathcal{L}\{f_1\} + c_2 \mathcal{L}\{f_2\}$
 $\mathcal{L}^{-1}\{c_1 F_1 + c_2 F_2\} = c_1 \mathcal{L}^{-1}\{F_1\} + c_2 \mathcal{L}^{-1}\{F_2\}$

Example 1 Find the Inverse Laplace Transform of a function, $G(s) = \frac{4}{(s-1)^3}$.

Example 2 Find the Inverse Laplace Transform of a function $G(s) = \frac{8s^2 - 4s + 12}{s(s^2 + 4)}$.