Homework 10: Intermediate Laplace Transforms

Introduction

The problems for this week focus on Laplace transforms. You should generally work these by hand with the support of the Laplace tables in the book. Once you have done them by hand you may use Maple or Mathematica to check your answers, but please note that symbolic math solvers may come up with forms of the solutions that are actually more complicated looking that what you actually need.

Problems

Connect

(1) A&S 15.25. Initial and Final Value Theorems are discussed on pp. 683-684 in the book.

(2) A&S 15.50.

(3) A&S 15.51.

(4) A&S 16.18. You must use Laplace transforms and clearly replace any elements storing energy when the switch moves with a combination of a source and an element that stores no energy.

(5) A&S 16.20. You must use Laplace transforms and clearly replace any elements storing energy when the switch moves with a combination of a source and an element that stores no energy.

(6) A&S 16.23. You must use Laplace transforms and clearly replace any elements storing energy when the switch moves with a combination of a source and an element that stores no energy.

(7) A&S 16.45.

(8) A&S 16.57. Important: in Connect, the top left element is a resistor, not an inductor. You can assume the system has no stored energy before time 0.

(9) A&S 16.80.

Sakai

None for this assignment.

Copyright 2022, Gustafson et al.