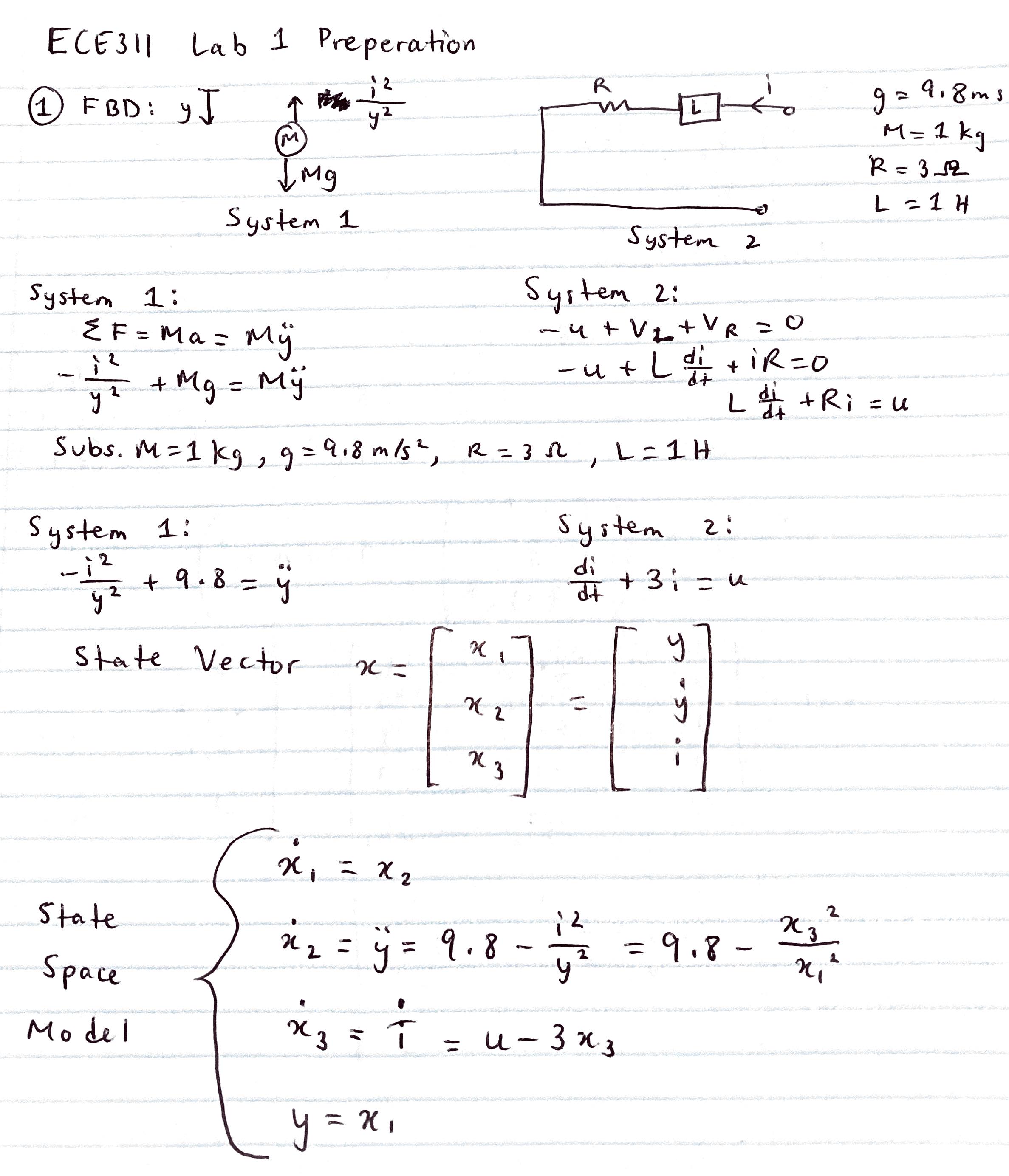
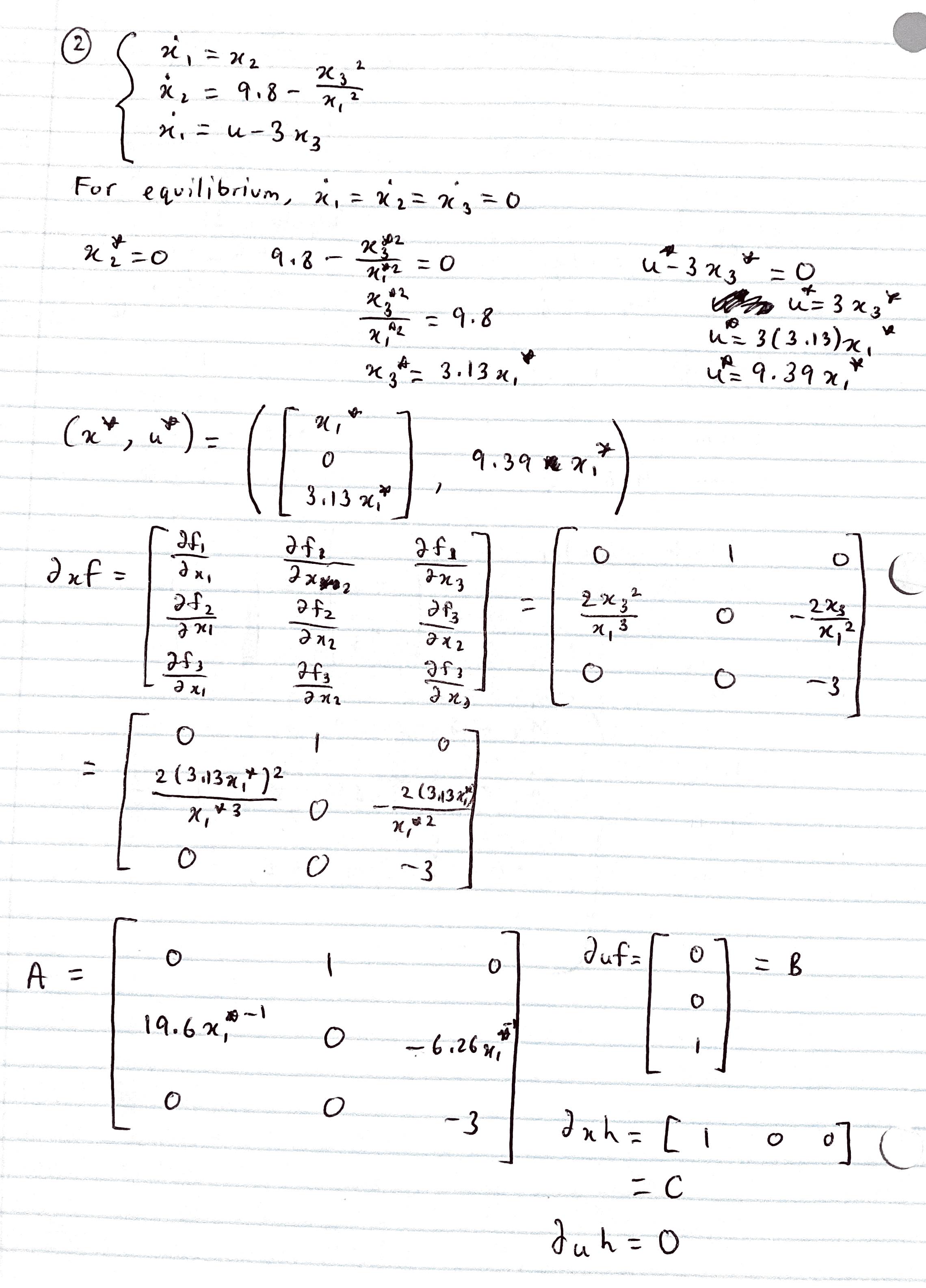
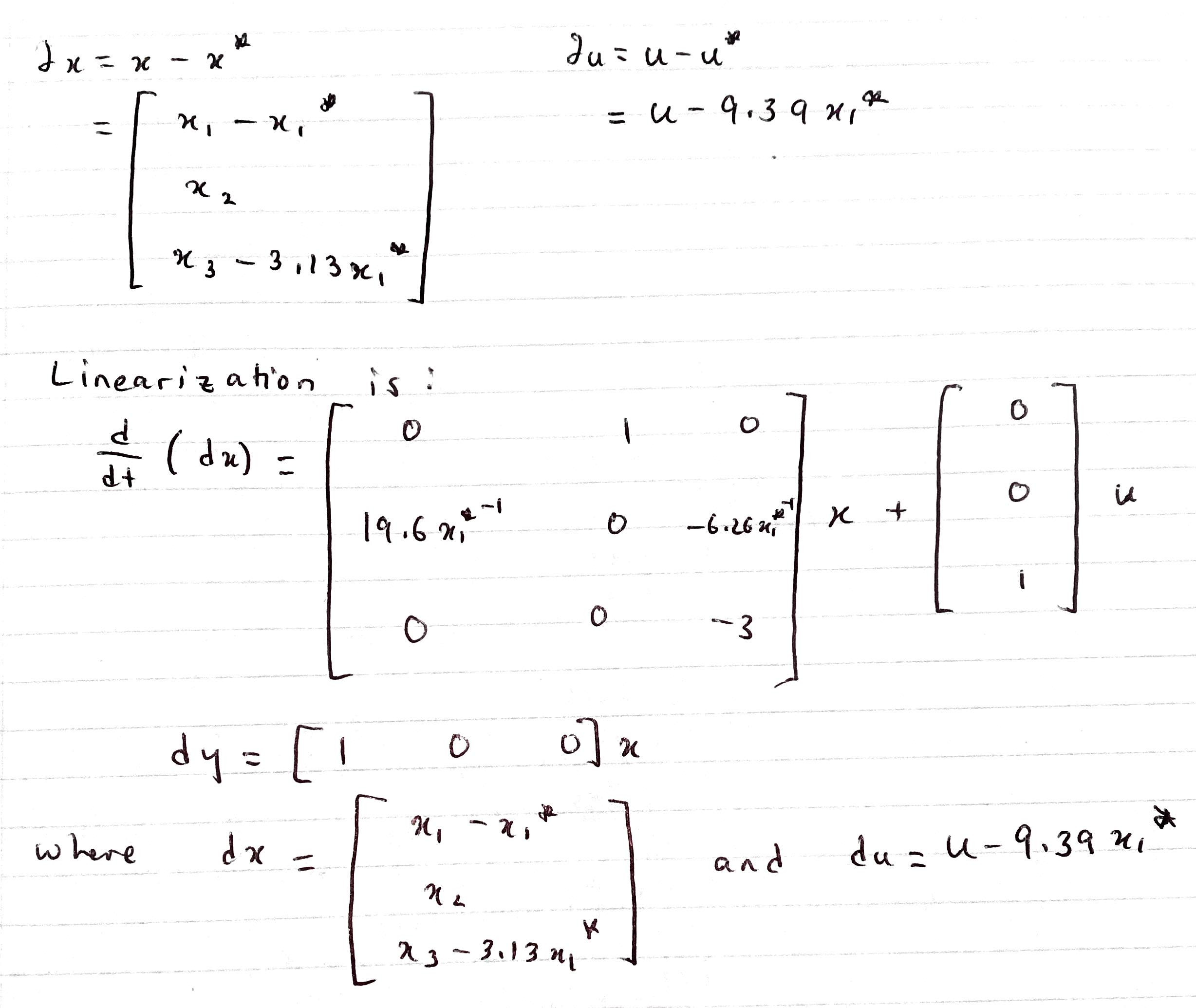
**Question 1:**



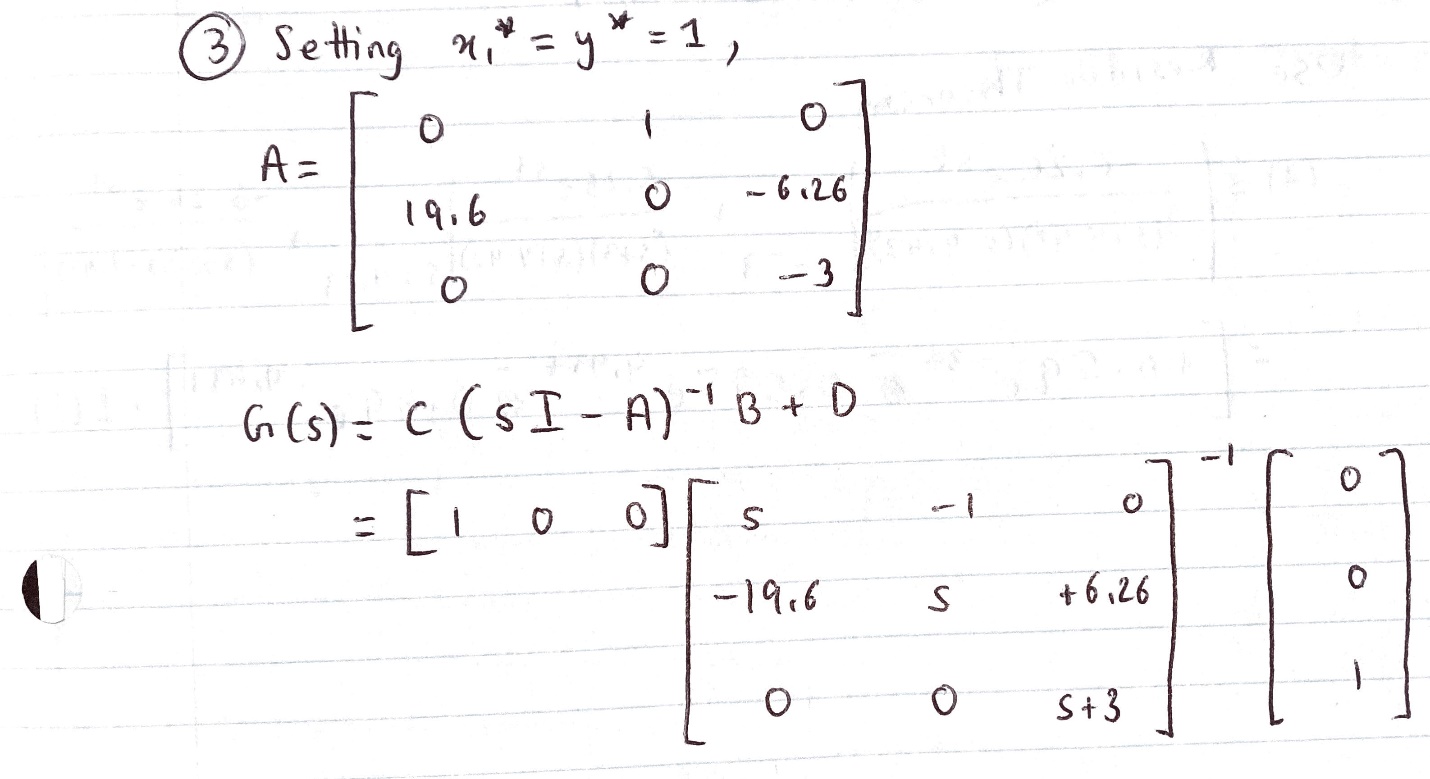
**Question 2:**

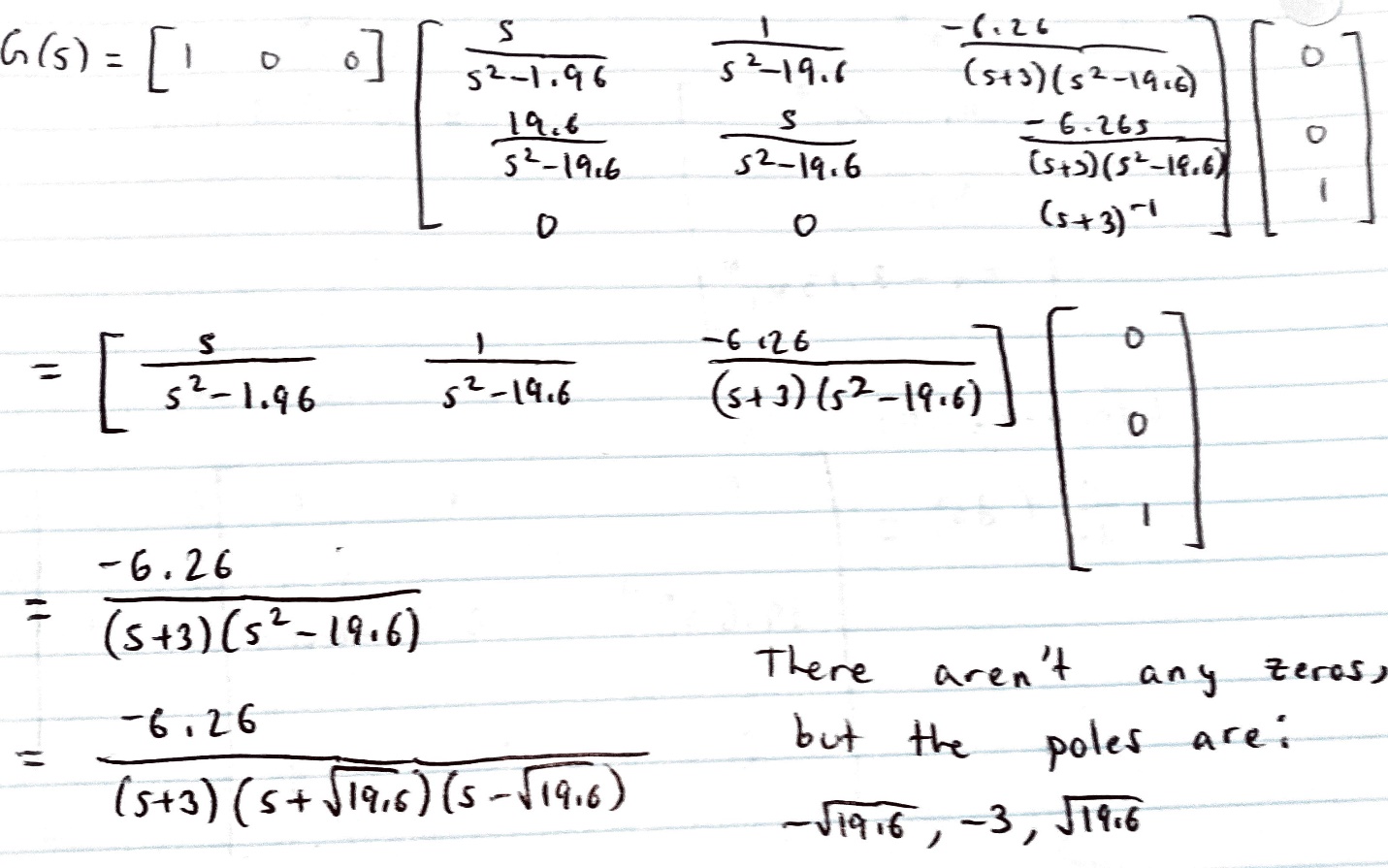


**Question 2 Continued:**



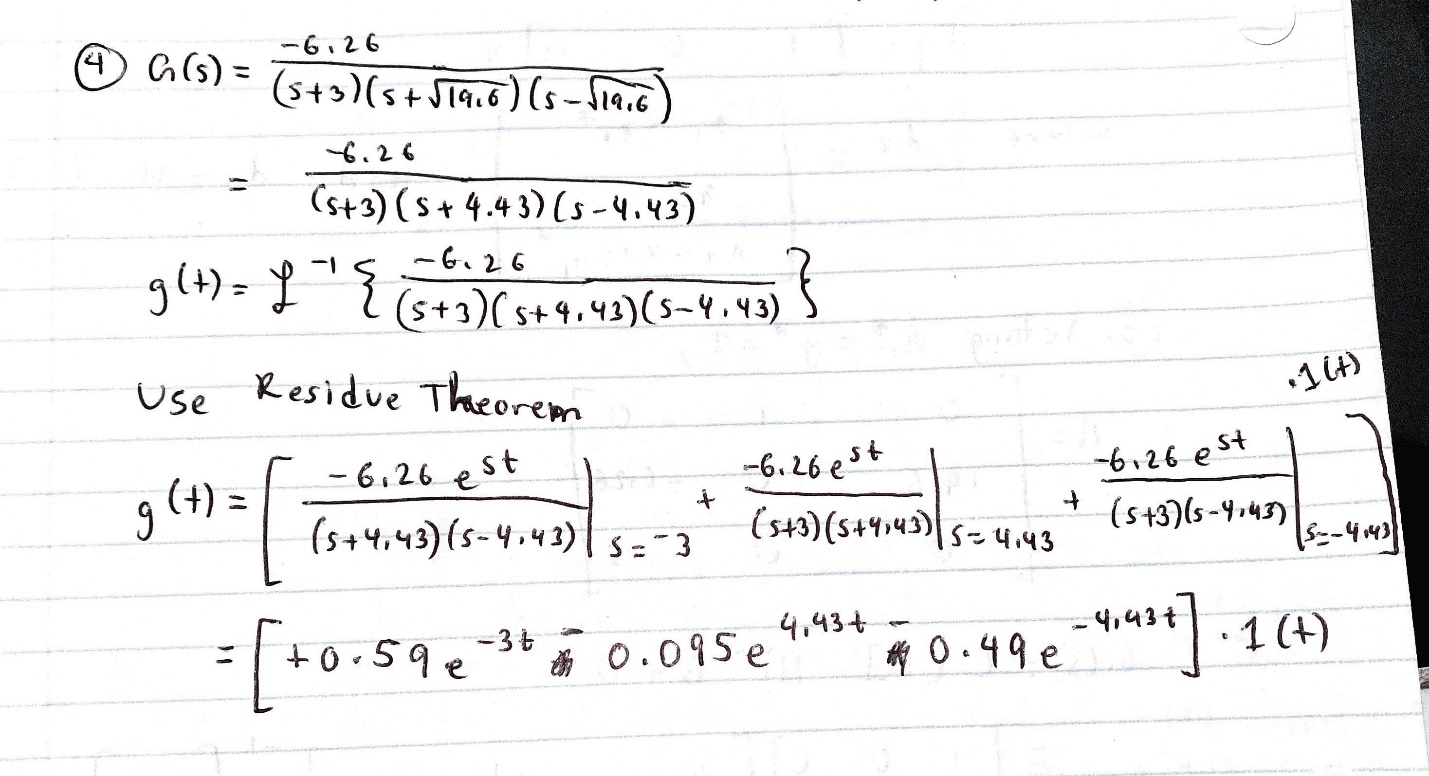
**Question 3:**







**Question 4:**



Plot of g(t):

