MATLAB Exercise

Note:
Use *tf* and *stepplot* or *step* functions to plot the step response. You may left click the mouse on the curve to get more information about a particular coordinate. Moreover, by right clicking away from the curve brings up a menu, from which you can obtain the characteristics of the step response curve by mouse pointing at the appearing dots.

1. Plot the step responses for the systems shown in Fig. 1 using MATLAB.

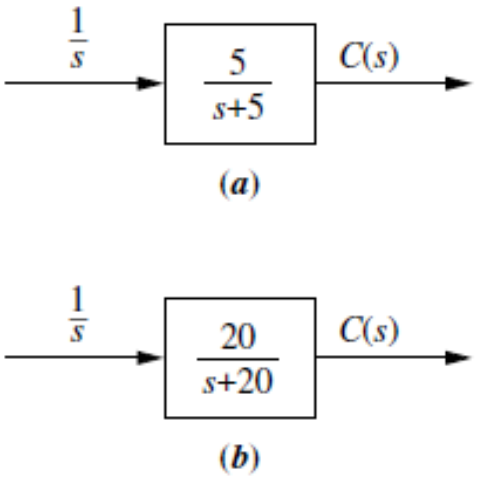

Fig. 1

2. Plot the step response for the system shown in Fig. 2 using MATLAB. From your plots, find the time constant, rise time, and settling time and compare them with ones you obtain from the equations.

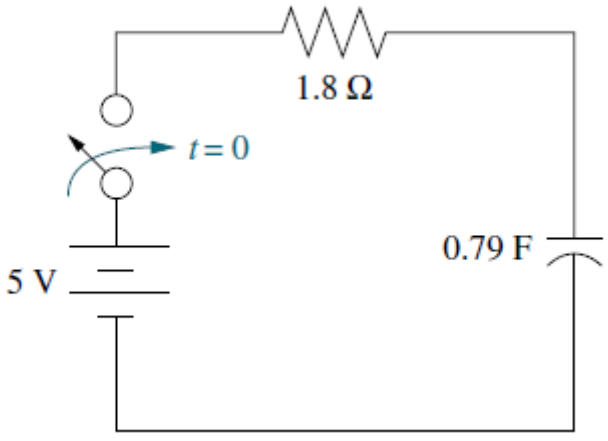

Fig. 2

3. Plot the step response for the system shown in Fig. 3 using MATLAB. From your plots, find the time constant, rise time, and settling time. Use M = 1 and M = 2.

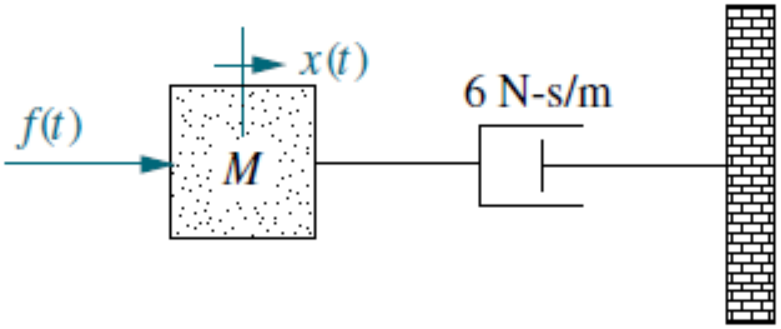

Fig. 3