

Name

M#

1. Numerically solve and plot (as a function and in phase space) a few distinct solutions of

$$x''' + x'' + 7x' + x = 0$$

Describe the solutions in words. Show your code and plots.

2. Explain the solution behavior briefly in terms of the roots of the polynomial  $m^3 + m^2 + 7m + 1 = 0$

$$x''' + x'' + 7x' + x = 0$$