

Problems 1.6–8, 20. These two problems go together and are to be done as a single problem. Proceed as follows. Carry out a qualitative phase-line analysis as we did in class by putting the phase line in #8 to the left of the plot in #20. Be sure to identify the equilibrium points on your plot and label the solutions asked for in #20. Describe in words the long-term behavior of the solution with the initial condition $w(0) = 3$.