Problem 1 (20 Points) Find the transfer function from the input to the output for Figure 1 and Figure 2.

![Figure 1: Block Diagram](image1)

![Figure 2: Op Amp Circuit](image2)

Problem 2 (20 Points) (a) Find the steady state error to a constant (unit step) disturbance for the block diagram in Figure 3. Modify the control design to make the steady state error equal to zero.

![Figure 3: Steady State Error Problem](image3)

(b) Is the system shown in Figure 4 stable. Show your work that made you come to your conclusion.
Figure 4: Stability Problem