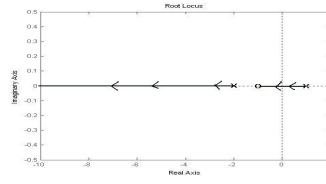
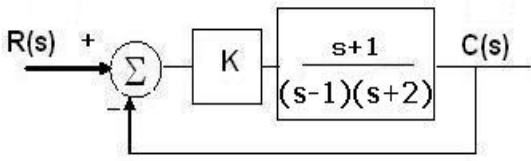
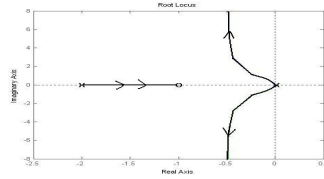
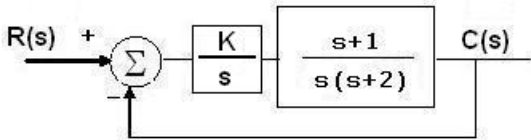


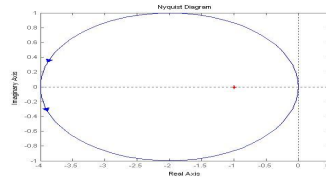
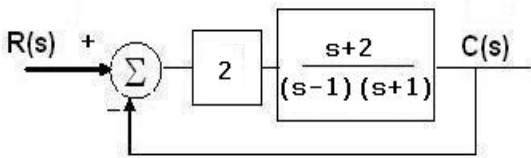
Eskişehir Osmangazi University - Electrical Engineering Department
Fundamentals of Control Systems
2nd Midterm Examination - Summer 2012



1. (a) [25 pts.] Sketch the root locus plot for the system above.
(b) [10 pts.] For which K values the system is stable. Ans. $K > 2$.



2. (a) [25 pts.] Sketch the root locus plot for the system above.
(b) [10 pts.] For which K values the system is stable. Ans. $K > 0$.



3. a) [20 pts.] Sketch the Nyquist plot for the system above.
(b) [10 pts.] Write P , Z , and N . Is this system stable. Ans. $P = 1, N = -1 \rightarrow Z = P + N = 0$. Yes.

Good Luck,
A. Karamancıoğlu