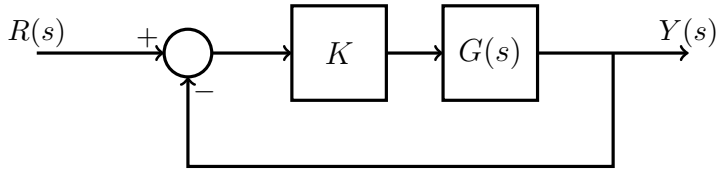
EENG307: Intro to Feedback Control

Fall 2020

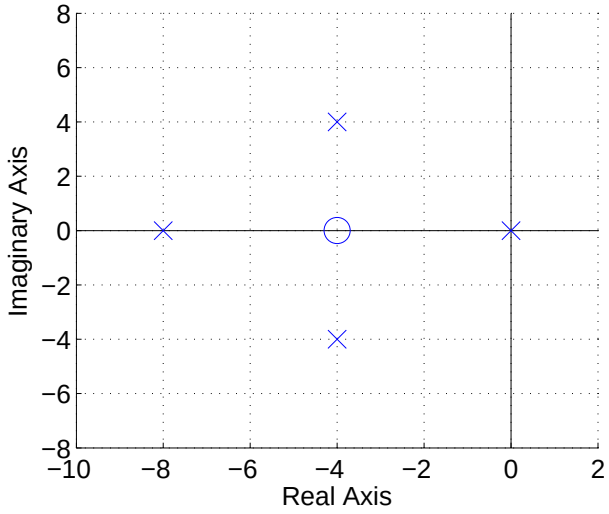
Homework Assignment #8

Quiz #7

Quiz Question Monday: Consider a closed loop system in the standard negative unity feedback configuration shown below



The pole zero map of the transfer function $G(s)$ is as follows:



(a) Sketch the root locus of closed loop poles as K goes from 0 to ∞. Include arrows designating the direction the roots travel along the loci as K increases.

(b) Based on your sketch, is it possible to choose a value of K such that the closed loop system is unstable?

Which of the following is the correct answer for part (b)?

(a) No

(b) Yes

(c) Maybe