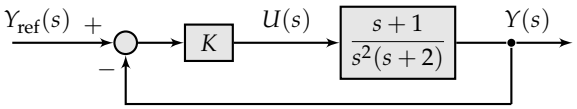
Student's Name: **Roll No.:**

Quiz # 3 EE 250 (Control System Analysis) Spring 2011 *

DEPARTMENT OF ELECTRICAL ENGINEERING, IIT KANPUR.

The negative root locus (NRL) is the locus of the poles of, for example, the system



with $K \in [0, -\infty)$. In this quiz, we will become acquainted with the NRL.

1. **[1 points]** Write the phase condition that the closed-loop poles of this system must satisfy.

2. **[2 points]** Mark the open loop poles and zeros on the s-plane and determine the sections of the real axis where the NRL lies. Mark the NRL on these sections.

3. **[2 points]** Determine the centroid of the asymptotes of this NRL.

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