

$$1. \quad GH = \frac{K}{(s^2 + 2s + 2)(s^2 + 2s + 5)}$$

(a): Determine and draw the real-line root locus.

(b) Calculate the asymptotes and their intercept.

(c) Draw the complete root locus.

2. Evaluate the root locus for the negative feedback system where

$$G(s)H(s) = \frac{K}{(s^2 + 4s + 5)(s + 2)(s + 1)}$$

(a): Determine the poles of GH

(b): Determine and carefully draw real-line root locus and calculate the asymptotes.

(c): Draw ~~the~~ and label the root-locus and angle of departure.