(25 pts) 3. For an open-loop system transfer function, \( kG(s)H(s) = k \frac{1}{s(s + 2)(s + 4)} \) plot the root locus diagram on the axes below for \( 0 < k < \infty \). When they exist, show features such as asymptotes, breakaway points, angles of departure, instability frequencies, etc.