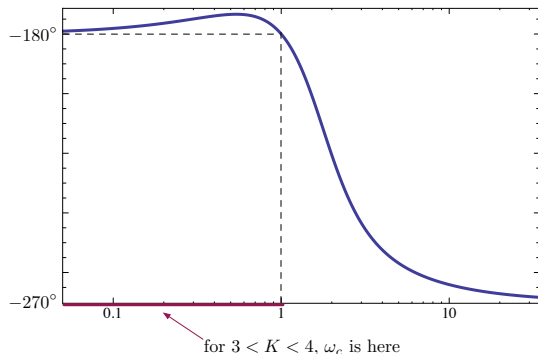


## Example 2: Nyquist Criterion and Phase Margin

Closed-loop stability range for  $G(s) = \frac{1}{(s-1)(s^2+2s+3)}$  is  $3 < K < 4$  (using either Routh or Nyquist).

We can interpret this in terms of phase margin:



So, in this case, **stability**  $\iff$  **PM**  $> 0$  (typical case).