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% File:           ME 430, Computer Assignment 2, Problem 2
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% Collaborators:   None
% Date Created:    Mon, Nov 27, 2017
% Last Updated:    ^^
%   Update Notes:  User prompt is commented out to handle
%                  publishing

clear, clc

%prompt = 'Please enter a value for K: ';
%K=input(prompt);
K = 40;
clf

syms s

s = tf('s');

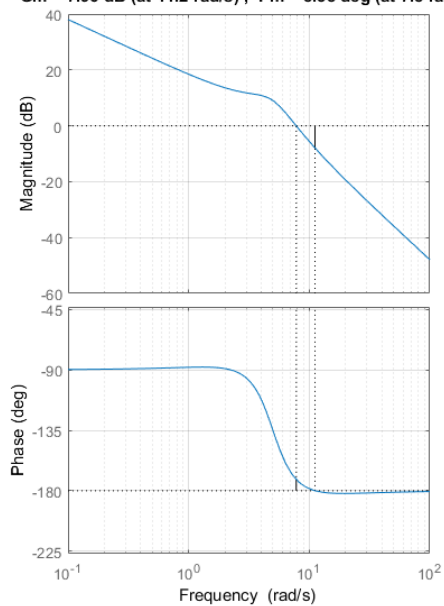
G1 = K*(s+5) / ( (s)*(s^2 + 4*s + 25) );

G2 = K / ( (s)*(s+3)*(s+12) );

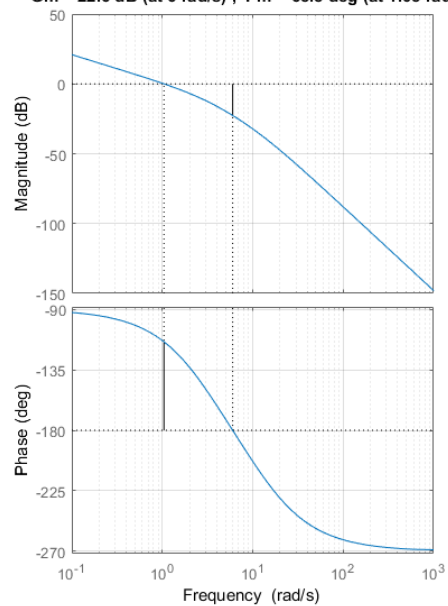
subplot(1,2,1)
bode(G1)
margin(G1)
%[Gm1,Pm1,Wgm1,Wpm1] = margin(G1)
grid on

subplot(1,2,2)
bode(G2)
margin(G2)
%[Gm2,Pm2,Wgm2,Wpm2] = margin(G2)
grid on
```

**Bode Diagram**  
 $G_m = 7.96 \text{ dB}$  (at  $11.2 \text{ rad/s}$ ),  $P_m = 8.38 \text{ deg}$  (at  $7.8 \text{ rad/s}$ )



**Bode Diagram**  
 $G_m = 22.6 \text{ dB}$  (at  $6 \text{ rad/s}$ ),  $P_m = 65.8 \text{ deg}$  (at  $1.05 \text{ rad/s}$ )



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