```
w = tf([180,270],[1, 20 109, 90])
```

```
w =

        180 s + 270
  -------------------------
  s^3 + 20 s^2 + 109 s + 90

Continuous-time transfer function.
```

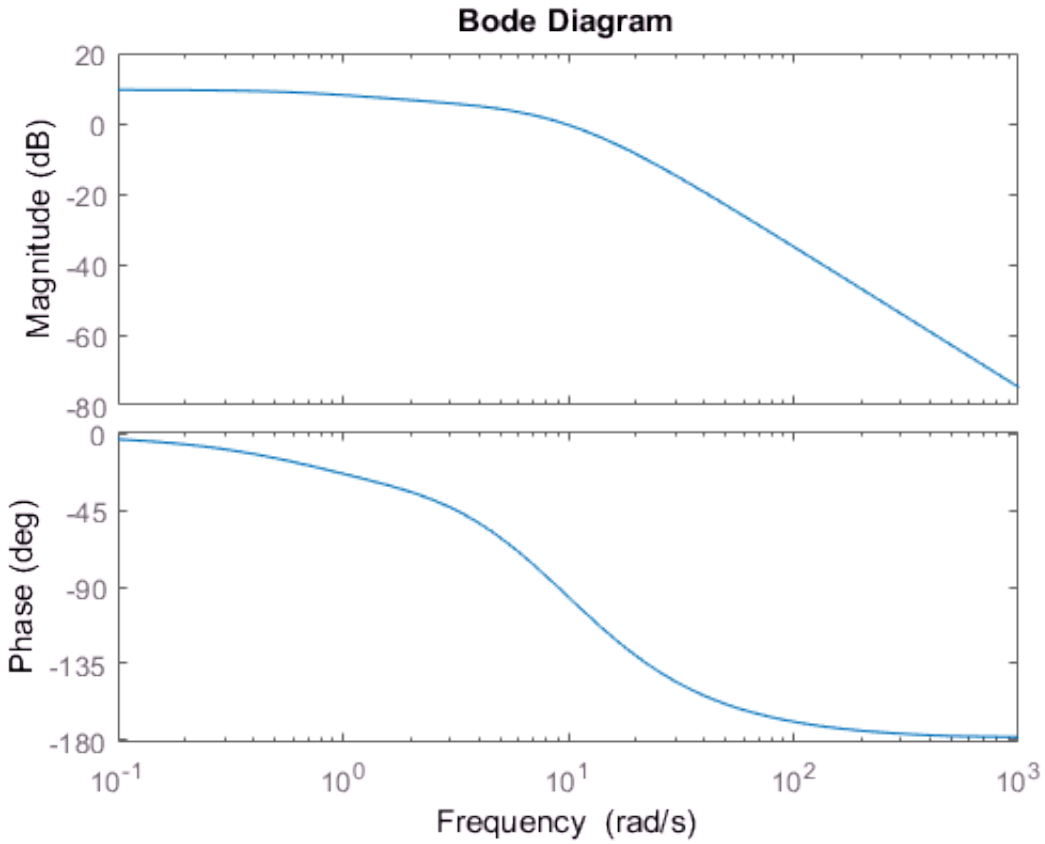
```
zpk(w)
```

```
ans =

     180 (s+1.5)
  ------------------
  (s+10) (s+9) (s+1)

Continuous-time zero/pole/gain model.
```

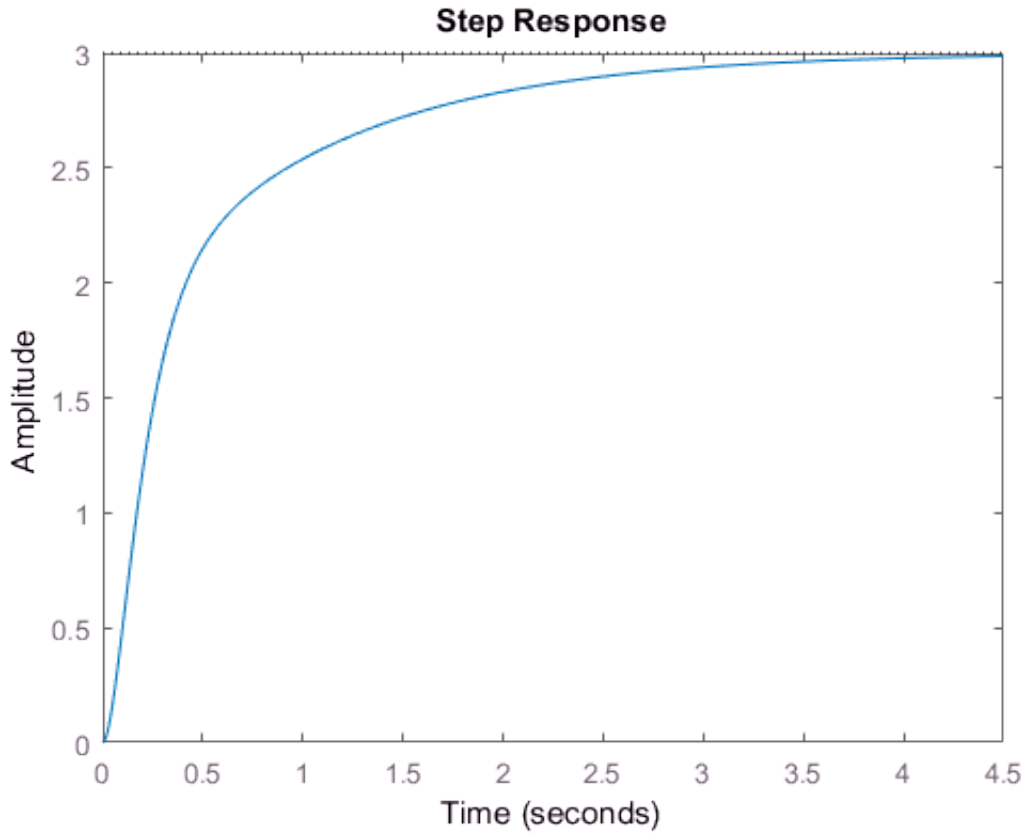
```
ss(w)
```

```
ans =

  A =
          x1      x2      x3
   x1     -20  -13.63  -2.813
   x2       8       0       0
   x3       0       4       0

  B =
       u1
   x1   4
   x2   0
   x3   0

  C =
         x1     x2     x3
   y1     0  5.625  2.109

  D =
       u1
   y1   0

Continuous-time state-space model.
```

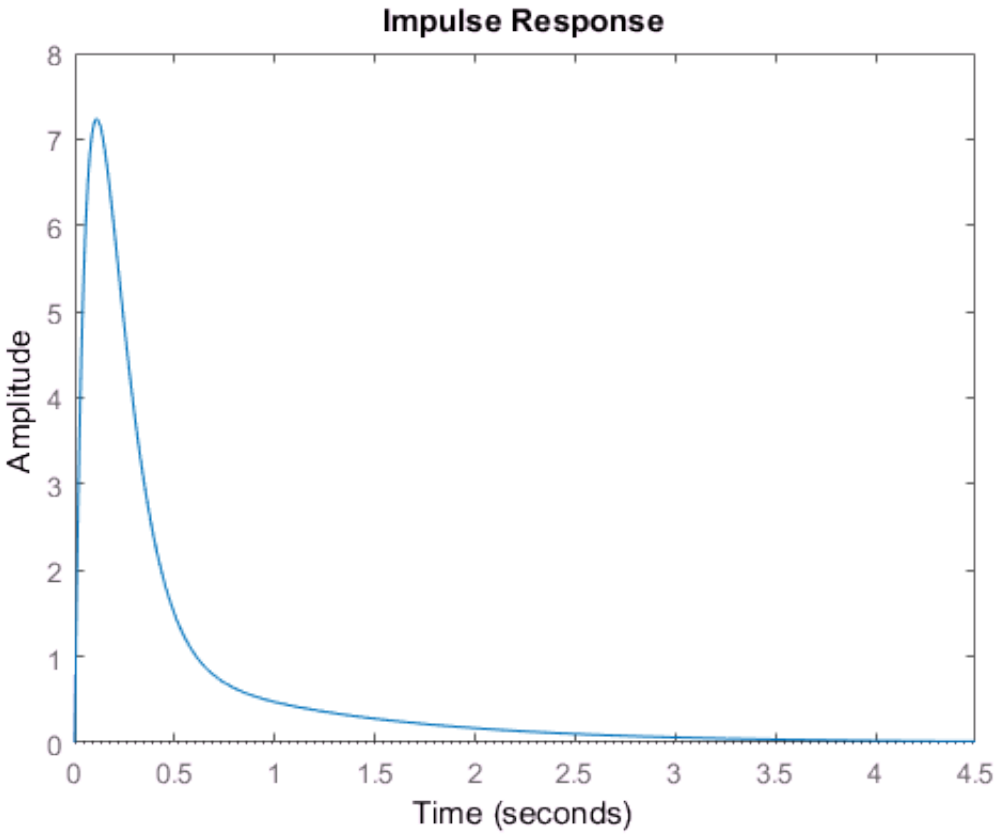
```
bode(w)
```


Bode Diagram
Magnitude (dB)
20
0
-20
-40
-60
-80
Phase (deg)
0
-45
-90
-135
-180
10^{-1}
10^{0}
10^{1}
10^{2}
10^{3}
Frequency (rad/s)

```
step(w)
```




```
impulse(w)
```


Impulse Response
Amplitude
Time (seconds)
0
1
2
3
4
5
6
7
8
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5