**5.**

**For $\omega = 0$**

```
omega = 0;
% Magnitude
G_s = (0.98)/((1i*omega)^2 + 1.4*(1i*omega) + 0.98);
% First Column
abs(G_s)
```

```
ans = 1
```

```
% Second Column
rad2deg(angle(G_s))
```

```
ans = 0
```

```
% Angle
G_s_angle = ((1.372)*(1i*omega)^2)/(9.8*(1i*omega)^2 + 13.72*(1i*omega)+ 1.372);
% Third Column
abs(G_s_angle)
```

```
ans = 0
```

```
% Last Column
rad2deg(angle(G_s_angle))
```

```
ans = 0
```

**For $\omega = 0.05$**

```
omega = 0.05;
% Magnitude
G_s = (0.98)/((1i*omega)^2 + 1.4*(1i*omega) + 0.98);
% First Column
abs(G_s)
```

```
ans = 1.0000
```

```
% Second Column
rad2deg(angle(G_s))
```

```
ans = -4.0960
```

```
% Angle
G_s_angle = ((1.372)*(1i*omega)^2)/(9.8*(1i*omega)^2 + 13.72*(1i*omega)+ 1.372);
% Third Column
```

```
abs(G_s_angle)
```

```
ans = 0.0023
```

```
% Last Column
rad2deg(angle(G_s_angle))
```

```
ans = 153.0198
```

**For $\omega = 0.5$**

```
omega = 0.5;
% Magnitude
G_s = (0.98)/((1i*omega)^2 + 1.4*(1i*omega) + 0.98);
% First Column
abs(G_s)
```

```
ans = 0.9690
```

```
% Second Column
rad2deg(angle(G_s))
```

```
ans = -43.7982
```

```
% Angle
G_s_angle = ((1.372)*(1i*omega)^2)/(9.8*(1i*omega)^2 + 13.72*(1i*omega)+ 1.372);
% Third Column
abs(G_s_angle)
```

```
ans = 0.0494
```

```
% Last Column
rad2deg(angle(G_s_angle))
```

```
ans = 81.0694
```

**For $\omega = 5$**

```
omega = 5;
% Magnitude
G_s = (0.98)/((1i*omega)^2 + 1.4*(1i*omega) + 0.98);
% First Column
abs(G_s)
```

```
ans = 0.0392
```

```
% Second Column
rad2deg(angle(G_s))
```

```
ans = -163.7526
```

```
% Angle
G_s_angle = ((1.372)*(1i*omega)^2)/(9.8*(1i*omega)^2 + 13.72*(1i*omega)+ 1.372);
% Third Column
abs(G_s_angle)
```

```
ans = 0.1355
```

```
% Last Column
rad2deg(angle(G_s_angle))
```

```
ans = 15.7260
```

**For $\omega = 50$**

```
omega = 50;
% Magnitude
G_s = (0.98)/((1i*omega)^2 + 1.4*(1i*omega) + 0.98);
% First Column
abs(G_s)
```

```
ans = 3.9200e-04
```

```
% Second Column
rad2deg(angle(G_s))
```

```
ans = -178.3955
```

```
% Angle
G_s_angle = ((1.372)*(1i*omega)^2)/(9.8*(1i*omega)^2 + 13.72*(1i*omega)+ 1.372);
% Third Column
abs(G_s_angle)
```

```
ans = 0.1400
```

```
% Last Column
rad2deg(angle(G_s_angle))
```

```
ans = 1.6040
```

6.