**% Name (first and last)**

**% CSC 2262**

**% cs2262xx**

**% Sample 5a**

**k = .0547;**

**t = 0:.001:4;**

**w0 = 3;**

**f = @(t,w) sqrt(2\*t^2+3\*t+16) \* log(sqrt(5\*t^2+120)) - k\*w^2;**

**options = odeset('RelTol',1e-7,'AbsTol',1e-7);**

**[t w] = ode45(f,t,w0,options);**

**plot(t,w,'b');**

**axis([0 4 2 20]);**

**set(gca,'xtick',0:4);**

**set(gca,'ytick',2:2:20);**

**xlabel('t');**

**ylabel('omega');**

**title('Sample 5a');**