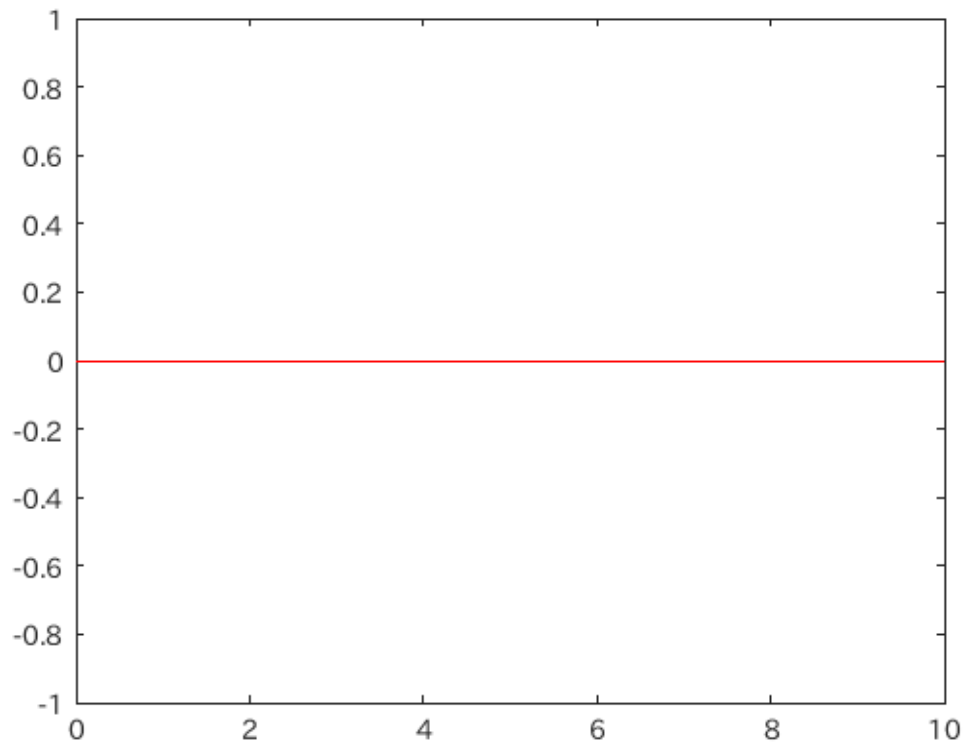
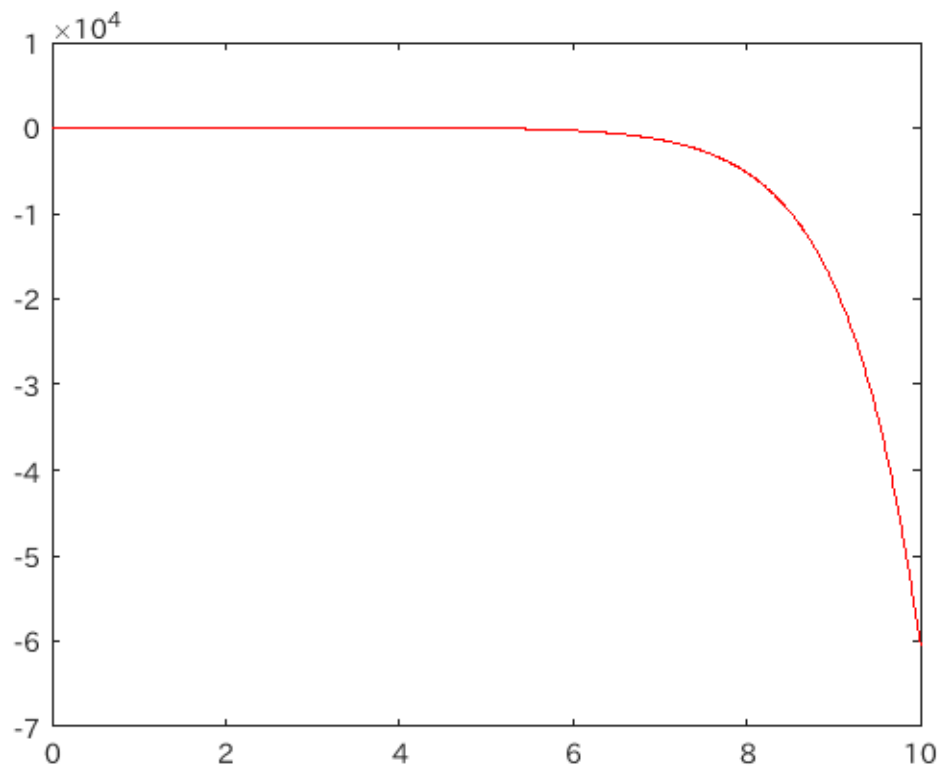


---

```
function main
global a b k;
c = [1 1 -1];
k = [0 0 0];%gain 0
%k = [5 12 7];%gain 1
%k = [0 4.5 4.5];%gain 2
%k = [209 108 19];%gain 3
%k = [51 31 5];gain 4
%k = [3 7 5];%gain 5
X0=[1,2,0];
[t,xf] = ode45(@sub,0:0.01:10,X0);%solve ODE
figure(1)
plot(t,xf*c','r');
hold on
figure(2)
plot(t,xf*k','r');
hold on
%end
```

```
function dx = sub(t,x);
    global a b k;
    %u = 1;
    u=-k*x;
    a = [0 1 0;0 0 1;-1 1 1];
    b = [0;0;1];
    dx = zeros(3,1);
    dx(1) = a(1,:)*x+b(1)*u;
    dx(2) = a(2,:)*x+b(2)*u;
    dx(3) = a(3,:)*x+b(3)*u;
```



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