

```

clear all; close all

%-----Uppg 5.7-----
tid=0:5:45;
vaken=[70 85 85 50 30 25 25 30 60 65];

plot(tid, vaken,'o')
hold on

for i=1:length(tid)-1
xx=tid(i):0.01:tid(i+1);
l=vaken(i)+(vaken(i+1)-vaken(i))/(tid(i+1)-tid(i))*(xx-tid(i));

plot(xx,l,'b')
hold on

end

%%

%-----Exempelsamling 6.2-----

clear all
close all

f=@(x) exp(x)./(1+2*x.^3);
xx=0:0.01:3;

plot(xx,f(xx))
T_save=[];
for i=1:4
h=0.25/i;
xcalc=0:h:3;
fcalc=f(xcalc);

T=h*(sum(fcalc)-0.5*(fcalc(1)+fcalc(end)));
T_save=[T_save T];
end
disp('Trapets')
fel=diff(T_save)

%%
%-----Ex 6.4-----
clear all

f= @(x) 30./(1+x.^4+sqrt(1+x.^3));

x=0:0.01:20;

plot(x,f(x))
y1=x.^4;
y2=sqrt(1+x.^3);

figure(100)
plot(x,y1,'r',x,y2,'-')

```

```
a=0;  
b=216;  
n=400;
```

```
h=(216)/n;  
x=a+[1:n-1]*h;  
T_0=(f(a)+f(b))/2; T=h*(T_0+sum(f(x)))
```

```
%Mer noggrannt, använd integral, Annars räkna med Trapetser tills önskad  
%nogrannhet!
```

```
T_int=integral(f,0,216)
```