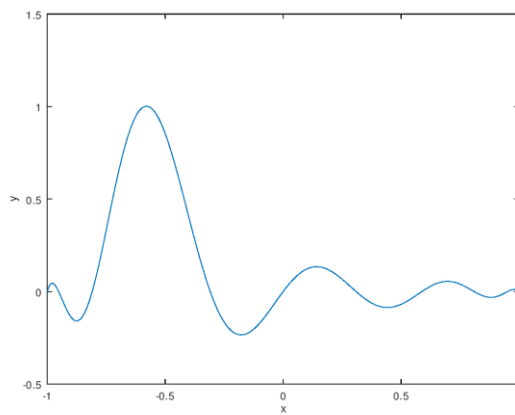
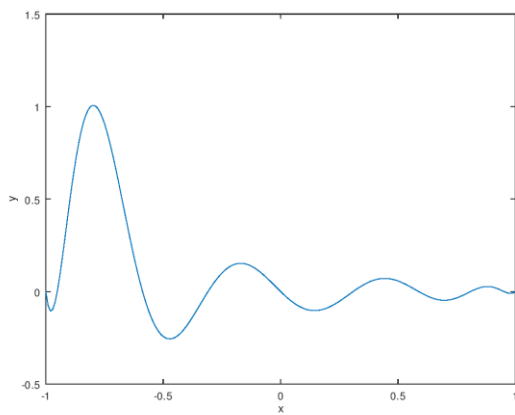
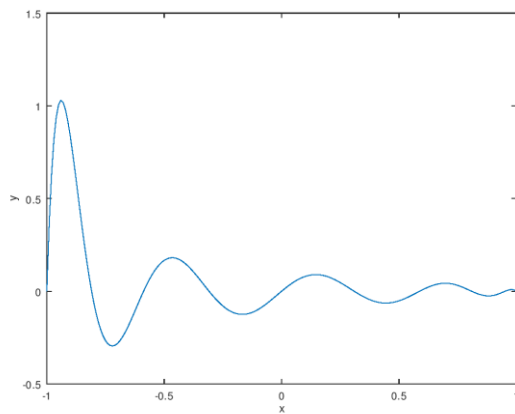
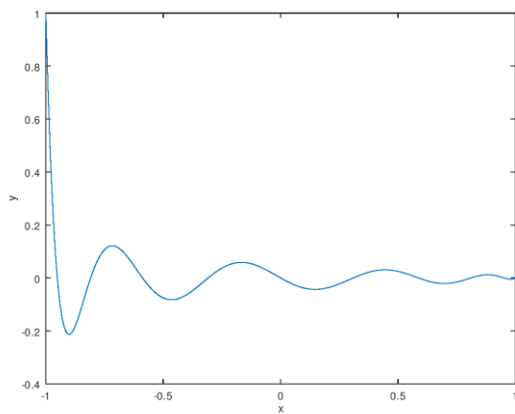
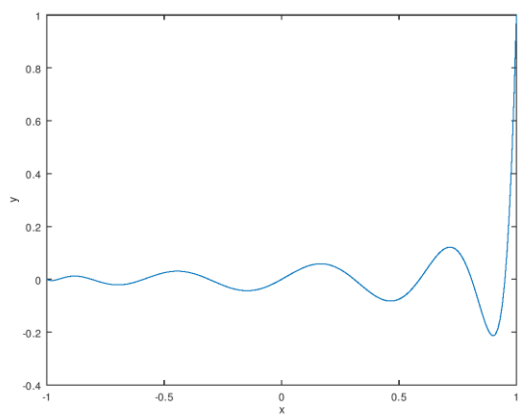
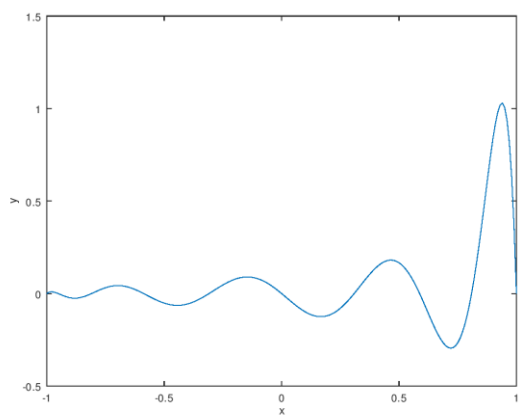
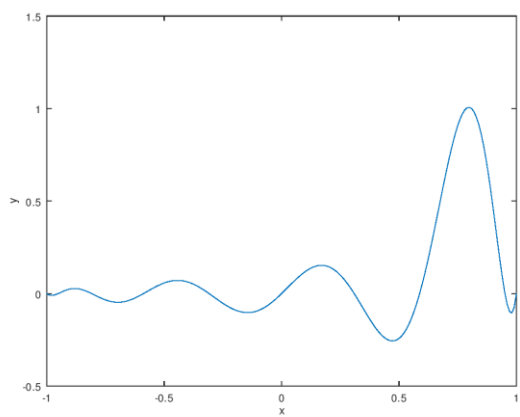
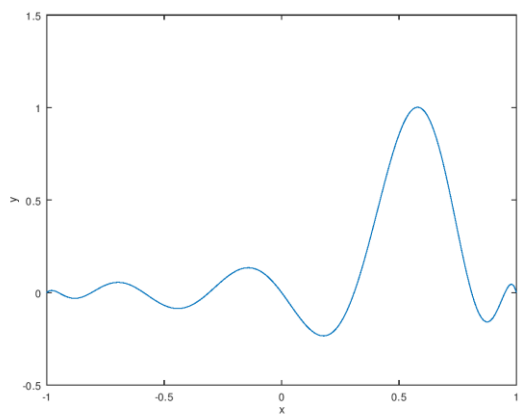
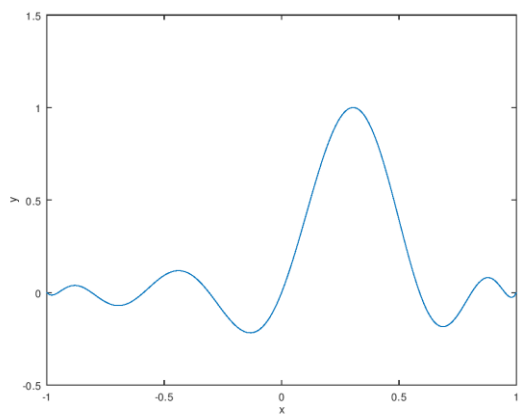
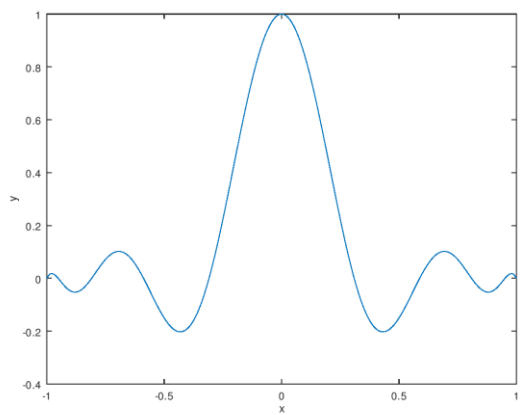
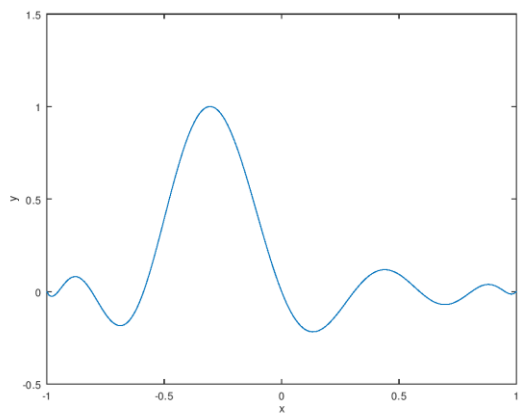


## C.1

```
x=[-1:0.01:1];  
x0=[-1 -0.9511 -0.8090 -0.5878 -0.3090 0 0.3090 0.5878 0.8090 0.9511 1];  
n=size(x0,2);  
for i=1:n  
    p=1;  
    for j=1:n  
        if j==i  
            continue;  
        endif;  
        p=p.*(x-x0(j))/(x0(i)-x0(j));  
    endfor;  
    figure(i)  
    plot(x,p);  
    xlabel('x')  
    ylabel('y')  
endfor;  
endfor;
```

圖從左至右依序為  $x_0, x_1, \dots, x_{10}$





## C.2

```
x=[-1 -0.9511 -0.8090 -0.5878 -0.3090 0 0.3090 0.5878 0.8090 0.9511 1];
y=[0.0385 0.0424 0.0576 0.1038 0.2952 1 0.2952 0.1038 0.0576 0.0424 0.0385];
function y=LagrangePol(x,pointx,pointy)
n=size(pointx,2);
L=ones(n,size(x,2));
for i=1:n
for j=1:n
if(i~=j)
L(i,:)=L(i,:).*(x-pointx(j))/(pointx(i)-pointx(j));
end
end
end
y=0;
for i=1:n
y=y+pointy(i)*L(i,:);
end
end
plot(x,y,"o","markersize",5)
hold on;
t=[-1:0.1:1];
plot(t,LagrangePol(t,x,y))
xlabel('x')
ylabel('y')
print -dpng output.png
```

