Taller final número 5

COMUNICACIONES

Steven Giron Bernal

Juan Camilo Manrique

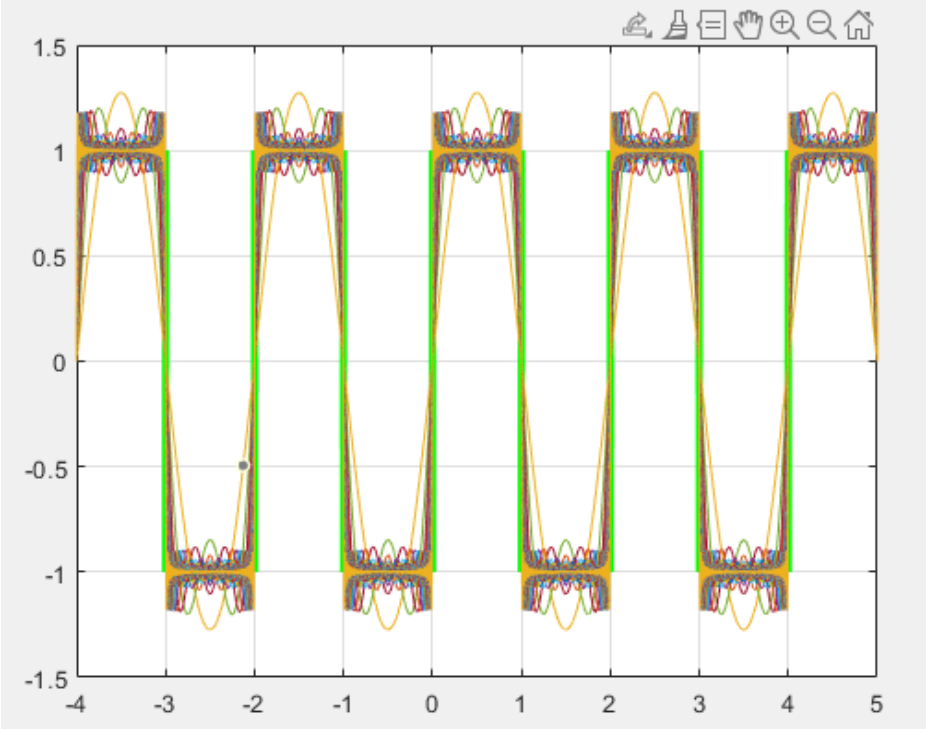
```
t = -4:0.001:5;

xt1 = ((-4 <= t) & (t <= -3));
xt2 = ((-3 <= t) & (t <= -2)).*-1;
xt3 = ((-2 <= t) & (t <= -1));
xt4 = ((-1 <= t) & (t <= 0)).*-1;
xt5 = ((0 <= t) & (t <= 1));
xt6 = ((1 <= t) & (t <= 2)).*-1;
xt7 = ((2 <= t) & (t <= 3));
xt8 = ((3 <= t) & (t <= 4)).*-1;
xt9 = (4 <= t);

xt = xt1 + xt2 + xt3 + xt4 + xt5 + xt6 + xt7 + xt8 + xt9;
plot(t,xt,'g','LineWidth',3);
hold on;
grid on;

k = 100;
s = 0;

for n = 1: k
    sf = (1 - (2*exp(-pi*1i*n)) + exp(-2*pi*1i*n))/(pi*1i*n).*exp((pi*1i*n).*t);
    s = s + sf;
    plot(t,s);
end
```



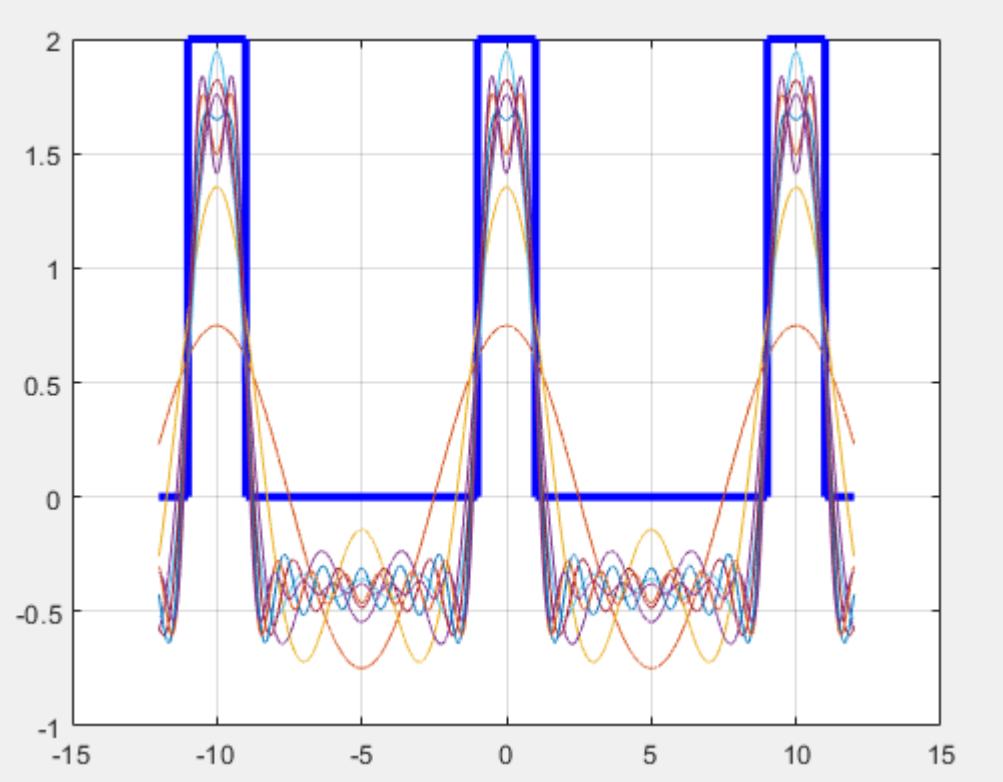
Ejercicio 2:

```
t = -12:0.001:12;
xt1 = ((-11 <= t) & (t <= -9)).*2;
xt2 = ((-1 <= t) & (t <= 1)).*2;
xt3 = ((9 <= t) & (t <= 11)).*2;

xt = xt1 + xt2 + xt3;
plot(t,xt,'b','LineWidth',3);
hold on;
grid on;

k=200;
s=0;

for n=1:k
    sf = 2*(2*sin(n*(pi/5))/(n*pi)).*exp(((pi/5)*1i*n).*t);
    s = s + sf;
    plot(t,s);
    pause(1);
end
```



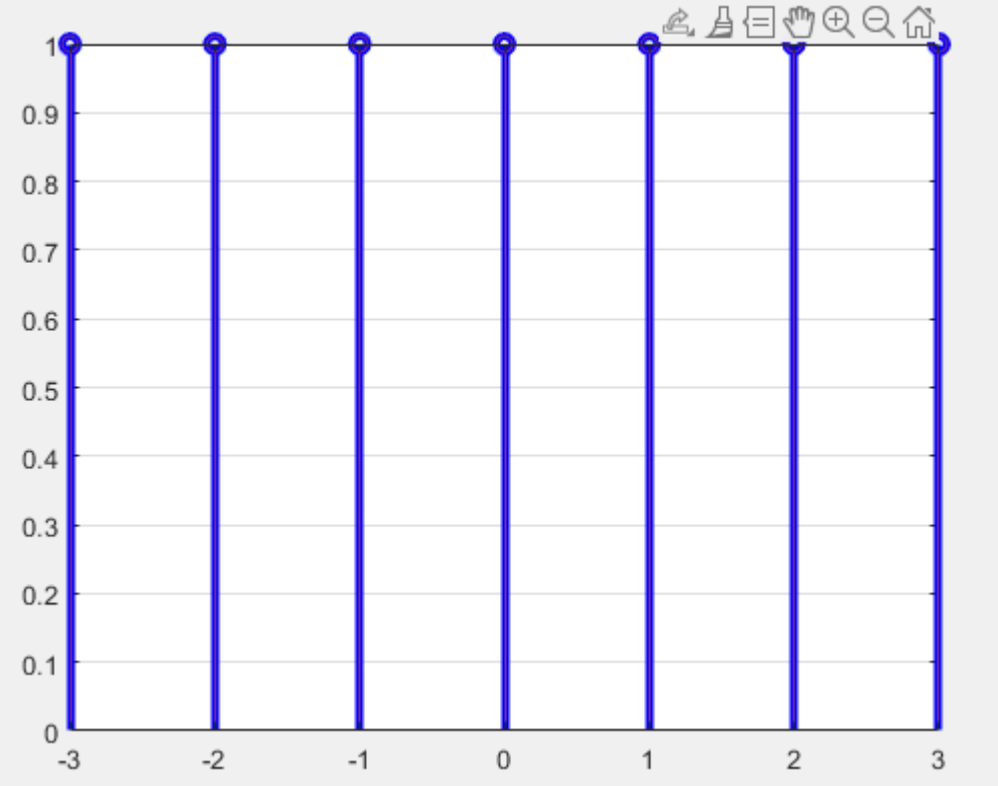
```
t = -3:1:3;

xt1 = (-3 <= t) & (t <= 3);

xt = xt1;
stem(t,xt,'b','LineWidth',3);
hold on;
grid on;

k=5;
s=0;
s2=0;

for n=1:k
    sf = exp((1i*n*(2*pi)).*t);
    sf2 = cos((n*(2*pi)).*t);
    s = s + sf;
    s2 = s2 + sf2;
    stem(t,sf,'b','LineWidth',2);
    stem(t,sf2);
end
```



Ejercicio 4

```
t = -3:0.001:3;
v = exp(-mod(t,1));
y = 0.36678;
figure(1);
clf(1);

hold on;
plot([-3,3],[y,y],'--r');
plot(t,v,'b','linewidth',2);
grid on;

k=100;
s=0;
s2=0;

for n = 1:k
    sf = ((1+exp(-1))/(1+(1i*n)*(3*pi))).*exp((2*pi*1i*n).*t);
    s = s + sf;
    plot(t,(s+0.55));
    %pause(1);
end
```