clc;

clear;

clf;

function **y**=f(**x**, **k**),**y**=exp(-(**x**-2).^2/(2\*(**k**.^2))).\*(**x**+3).\*(1/((2\*%pi\*(**k**.^2))^(1/2))),endfunction

x=-10:0.1:10

for k=1:-0.2:0.6

y=f(x,k)

subplot(221)

plot2d(x,y,k+2)

I=intg(-100,100,f)

disp("For sigma="+string(k)+",Integral tends to:"+string(I))

for t= 0:0.1:4

G(10\*t+1)=[intg(2-t,2+t,f)]'

end

t=0:0.1:4

subplot(222)

plot(t,G,k+2)

end

for k=1:-0.2:0.6

for(i=1:3)

m=intg(2-k\*i,2+k\*i,f)\*100/intg(-100,100,f)

disp("For sigma="+string(k)+", Percentage area for limit 2-"+string(i)+" sigma to 2+"+string(i)+" sigma is "+string(m))

end

end

console

**For sigma=1,Integral tends to:5**

**For sigma=0.8,Integral tends to:5**

**For sigma=0.6,Integral tends to:5**

**For sigma=1, Percentage area for limit 2-1 sigma to 2+1 sigma is68.268949**

**For sigma=1, Percentage area for limit 2-2 sigma to 2+2 sigma is95.449974**

**For sigma=1, Percentage area for limit 2-3 sigma to 2+3 sigma is99.73002**

**For sigma=0.8, Percentage area for limit 2-1 sigma to 2+1 sigma is68.268949**

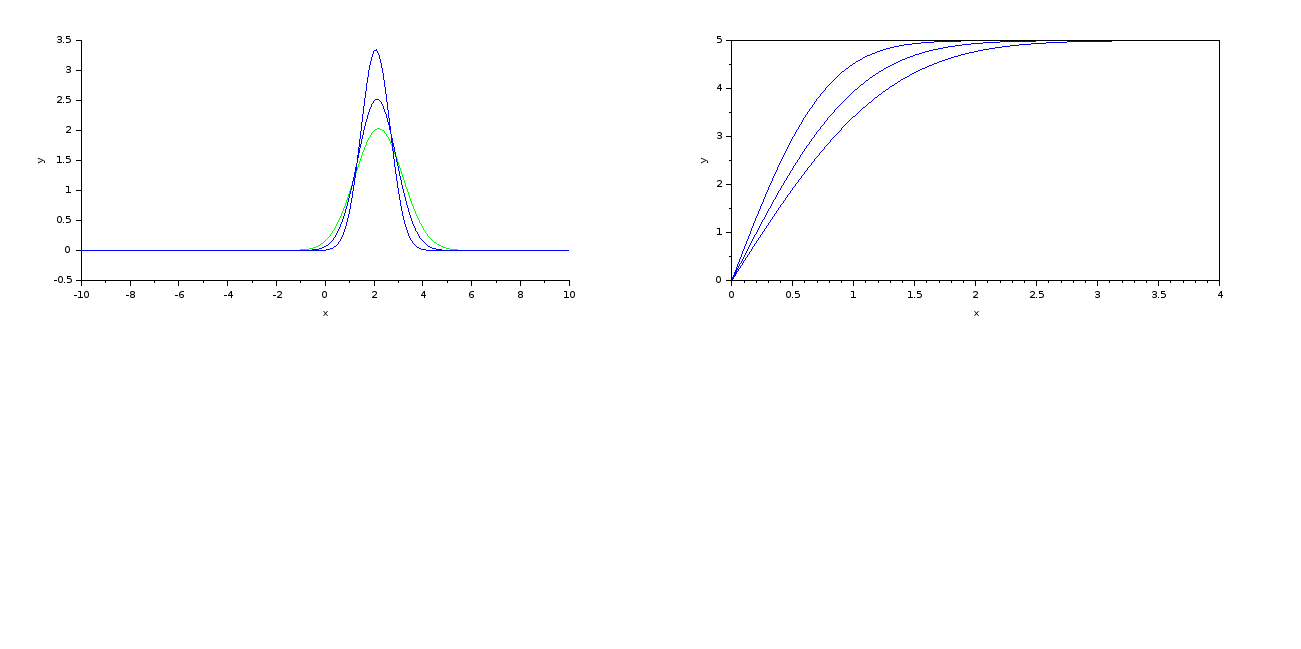
**For sigma=0.8, Percentage area for limit 2-2 sigma to 2+2 sigma is95.449974**

**For sigma=0.8, Percentage area for limit 2-3 sigma to 2+3 sigma is99.73002**

**For sigma=0.6, Percentage area for limit 2-1 sigma to 2+1 sigma is68.268949**

**For sigma=0.6, Percentage area for limit 2-2 sigma to 2+2 sigma is95.449974**

**For sigma=0.6, Percentage area for limit 2-3 sigma to 2+3 sigma is99.73002**

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