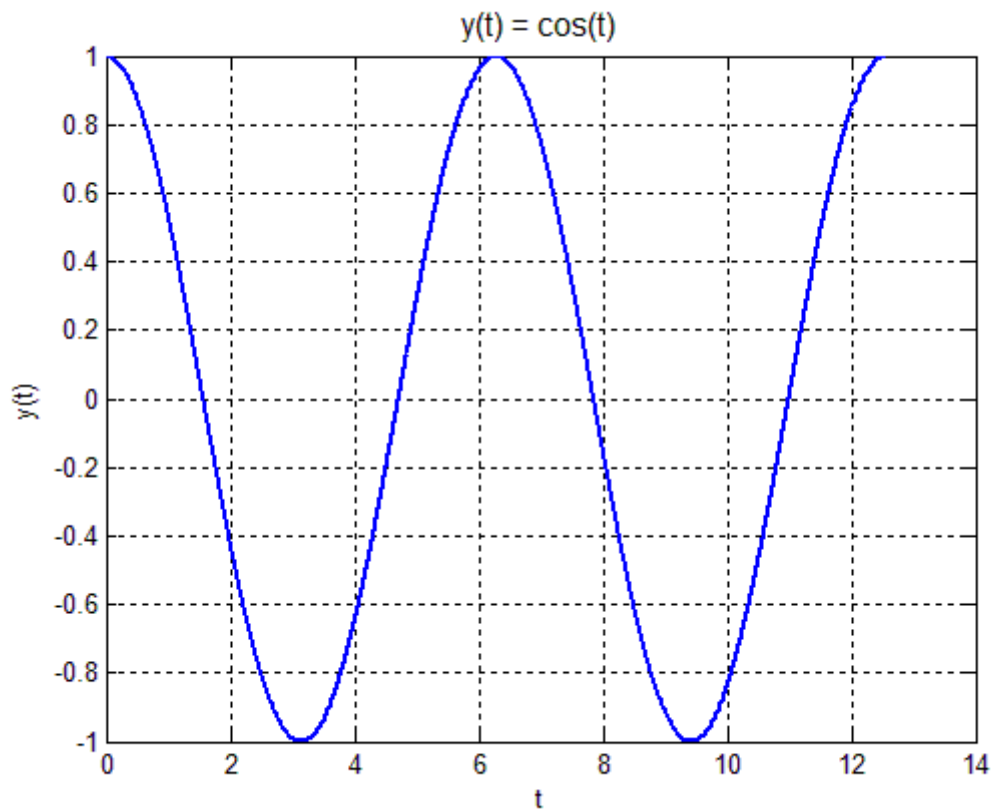Marcos Paulo Cayres Rosa

Matrícula: 14/0027131
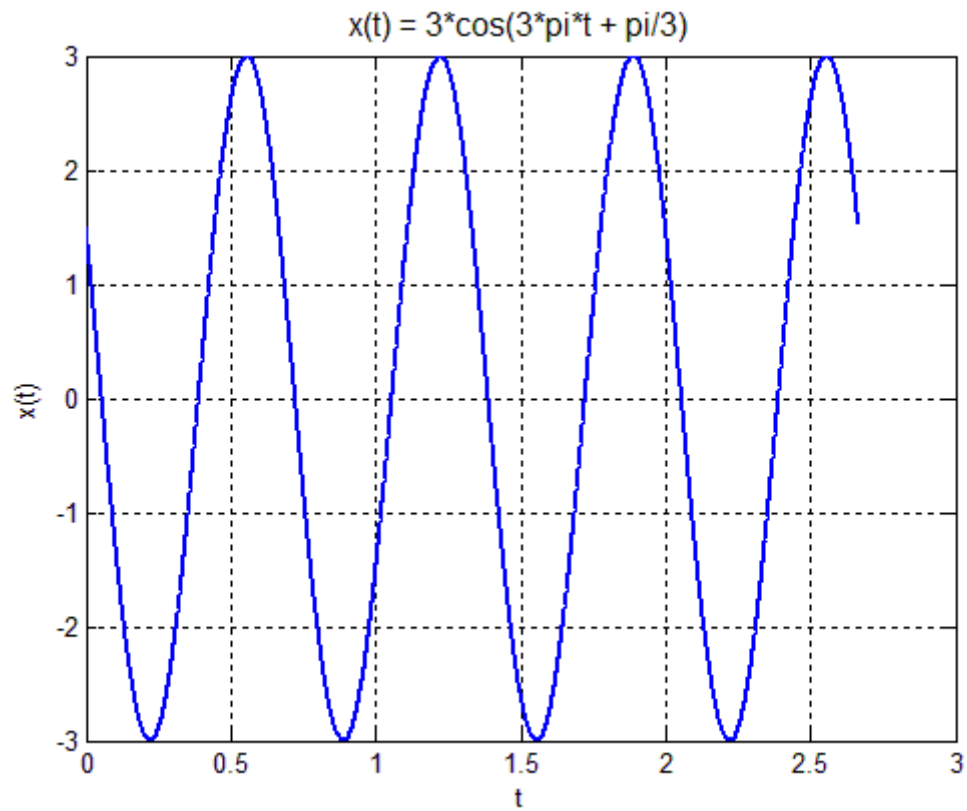
Letra "a":

```
t = 0:0.001:(4*pi);
y = cos(t);
plot(t,y,'LineWidth',2);

xlabel('t');
ylabel('y(t)');
title('y(t) = cos(t)','FontSize',12);
grid on;
```


Letra "b":

```
t = 0:0.001:(8/3);
x = 3*cos(3*pi*t + pi/3);
plot(t,x,'LineWidth',2);

xlabel('t');
ylabel('x(t)');
title('x(t) = 3*cos(3*pi*t + pi/3)','FontSize',12);
grid on;
```
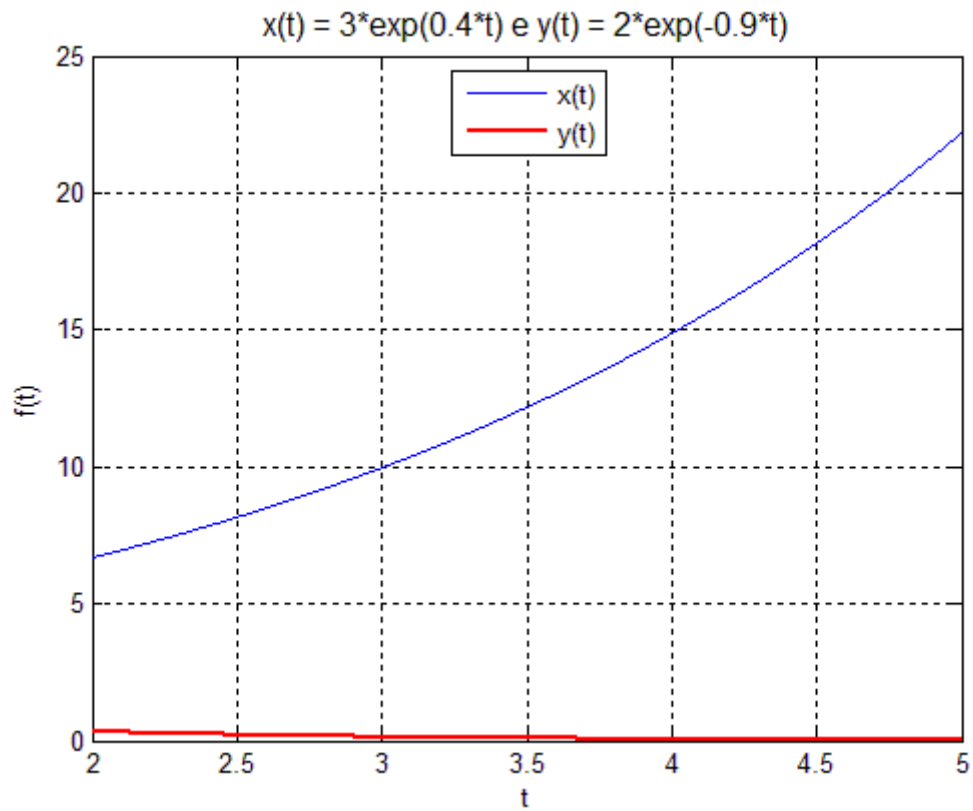
x(t) = 3*cos(3*pi*t + pi/3)

Letra "c":

```
t = 2:0.001:5;
x = 3*exp(0.4*t);
y = 2*exp(-0.9*t);

plot(t,x);
hold on;
plot(t,y ,'r','LineWidth',2);

xlabel('t');
ylabel('f(t)');
title('x(t) = 3*exp(0.4*t) e y(t) = 2*exp(-0.9*t)','FontSize',12);
legend('x(t)', 'y(t)','Location','North');
grid on;
```
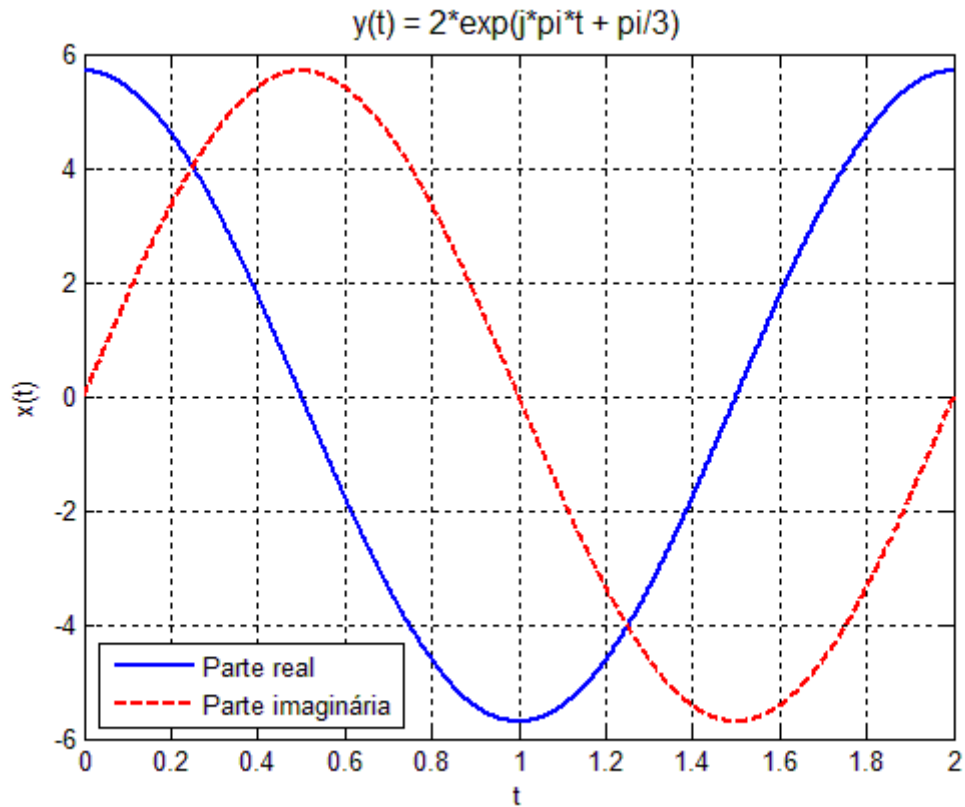
x(t) = 3*exp(0.4*t) e y(t) = 2*exp(-0.9*t)

Letra "d":

```
t = 0:0.001:2;
x = 2*exp(pi/3)*cos(pi*t);
y = 2*exp(pi/3)*sin(pi*t);

plot(t,x,'LineWidth',2);
hold on;
plot(t,y ,'--r','LineWidth',2);

xlabel('t');
ylabel('x(t)');
title('y(t) = 2*exp(j*pi*t + pi/3)','FontSize',12);
legend('Parte real','Parte imaginária','Location','Southwest');
grid on;
```

y(t) = 2*exp(j*pi*t + pi/3)

Letra "e":

```
t = 0:0.01:2;
x = 2*exp(pi/3)*cos(pi*t);
y = 2*exp(pi/3)*sin(pi*t);

fig = figure;

mov = VideoWriter('Animacao.mp4','MPEG-4');
mov.Quality = 100;
mov.FrameRate = 4;
open(mov);
F=getframe(fig);
writeVideo(mov,F);

for i = 1:length(y)

    compass(x(i),y(i));
    title(['t = ' num2str(t(i))]);
    F=getframe(fig);
    writeVideo(mov,F);
    pause(0.001);

end

close(mov);
grid on;
```

Link: https://youtu.be/ifwiYe972Os