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% Aluno: Gabriel Augusto Morisaki Rita
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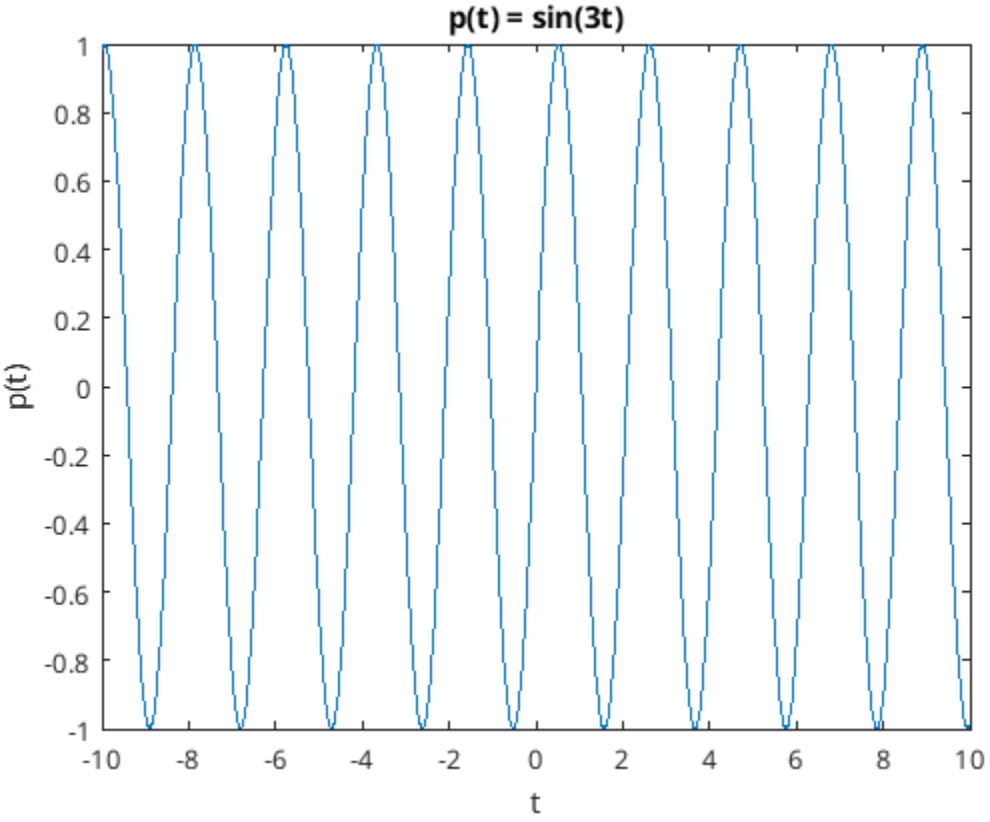
Exercício 1

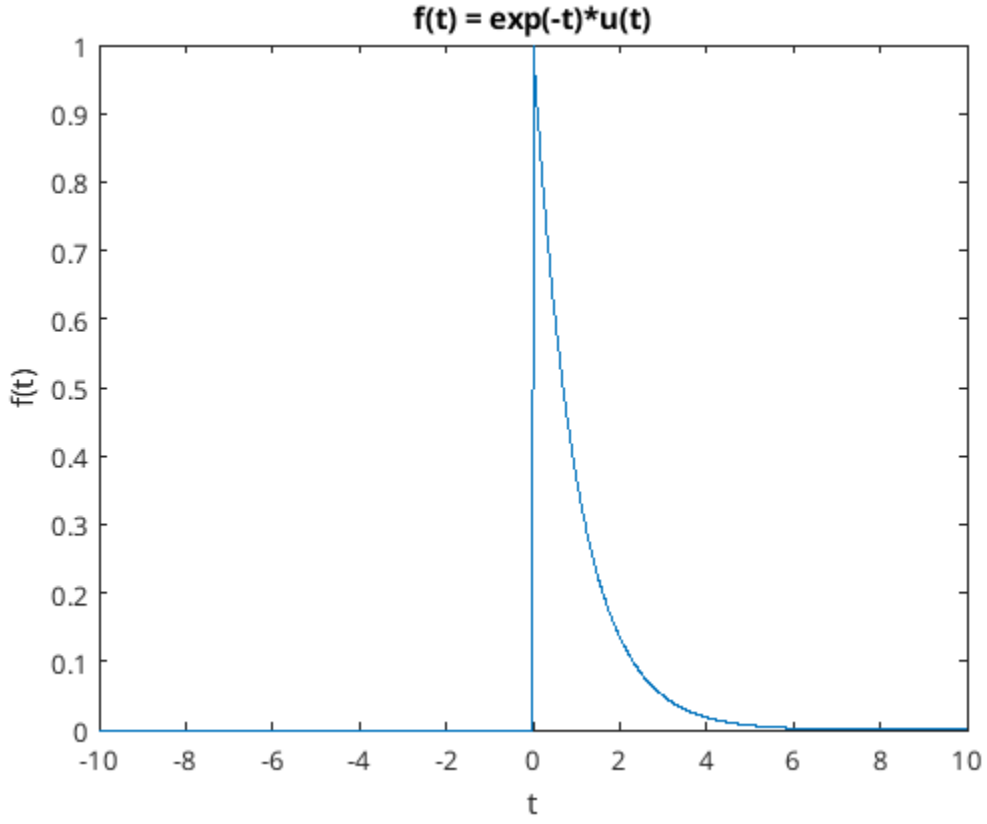
```
clc; clearvars; close all;

dt = 0.01;
t = -10:dt:10;

% 1 - p(t) = sin(3t)
p = sin(3 * t);

% 2 - f(t) = exp(-t)
f = exp(-t);

% 3 - m(t) = t*exp(-t)
m = t.*exp(-t);

% 4 - q(t) = exp(-t)*cos(t)
q = exp(-t).*cos(t);
```

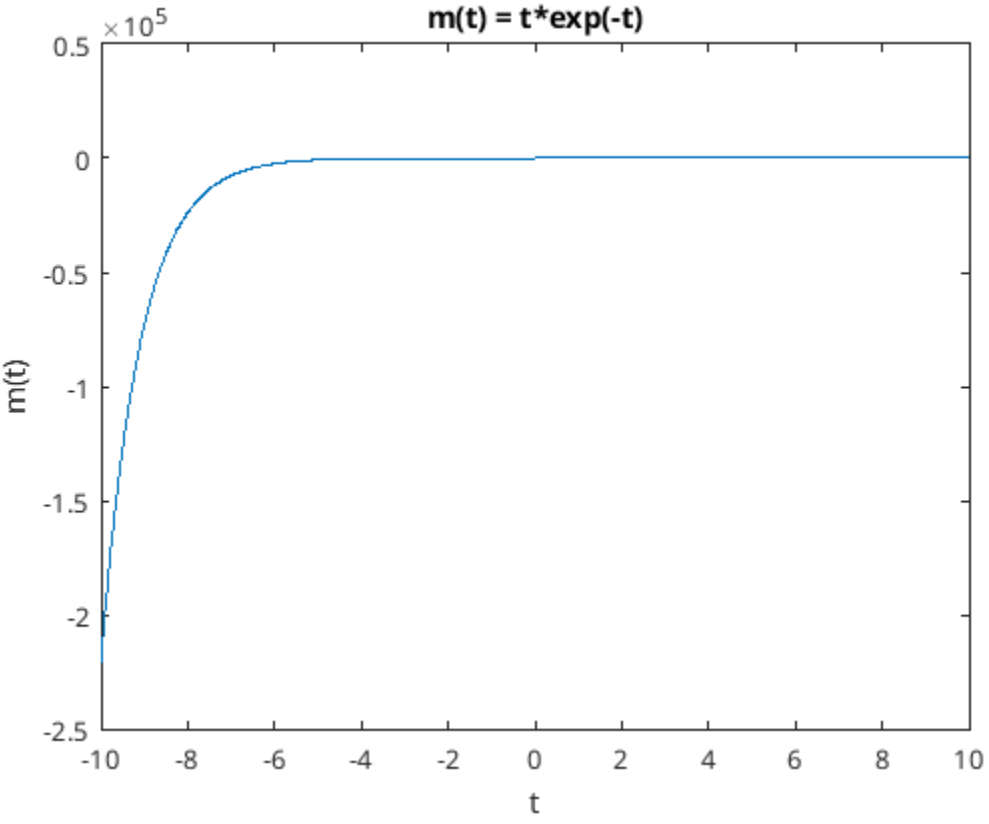
Exercício 2

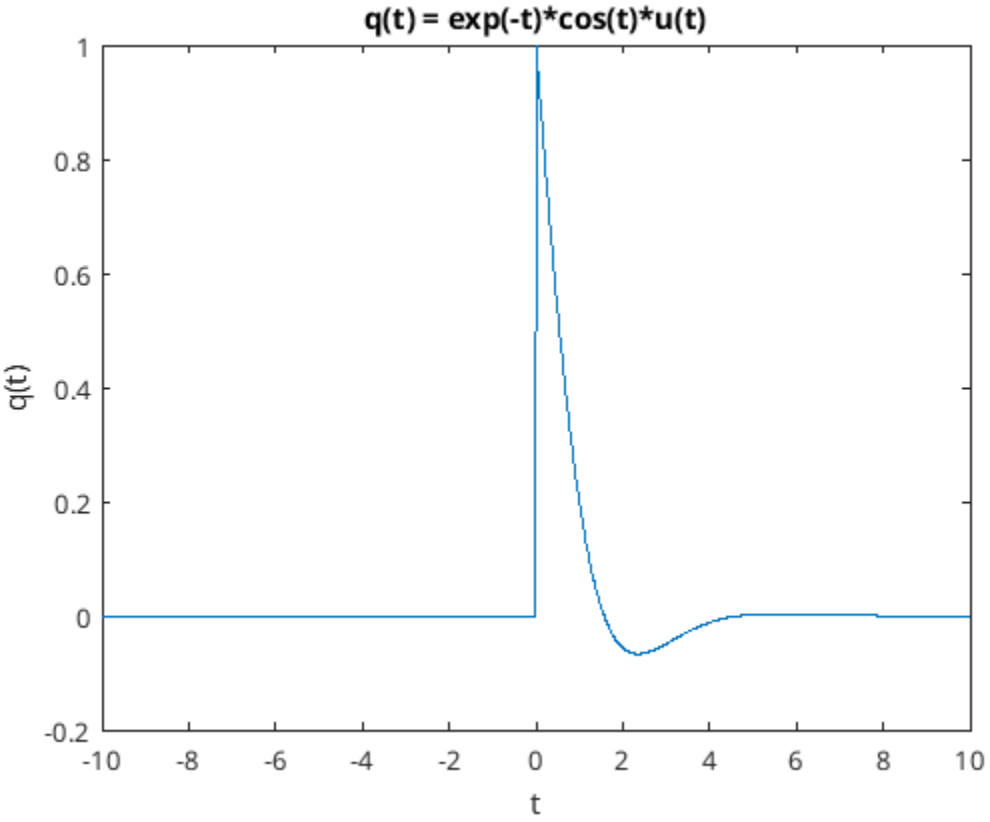
```
clc; clearvars; close all;

dt = 0.01;
t = -10:dt:10;
u = zeros(size(t));
u(t >= 0) = 1;

% 1 - p(t) = sin(3t)
p = sin(3 * t);
figure(1);
plot(t, p);
title('p(t) = sin(3t)');
xlabel('t');
ylabel('p(t)');

% 2 - f(t) = exp(-t)*u(t)
f = exp(-t).*u;
figure(2);
plot(t, f);
title('f(t) = exp(-t)*u(t)');
xlabel('t');
ylabel('f(t)');

% 3 - m(t) = t*exp(-t)
m = t.*exp(-t);
figure(3);
plot(t, m);
title('m(t) = t*exp(-t)');
```

```
xlabel('t');
ylabel('m(t)');

% 4 - q(t) = exp(-t)*cos(t)*u(t)
q = exp(-t).*cos(t).*u;
figure(4);
plot(t, q);
title('q(t) = exp(-t)*cos(t)*u(t)');
xlabel('t');
ylabel('q(t)');
```




f(t) = exp(-t)*u(t)
f(t)
t
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
-10
-8
-6
-4
-2
0
2
4
6
8
10


m(t) = t*exp(-t)
×10^5
m(t)
t
0.5
0
-0.5
-1
-1.5
-2
-2.5
-10
-8
-6
-4
-2
0
2
4
6
8
10



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