%% Question 1

commandwindow

clear

clc

close all

A = [0 10 4 -2; -3 -17 1 2; 1 1 1 0; 8 -34 16 -10]

B = [-4; 2; 6; 4]

C = inv(A)

format bank

D = C\*B

%% question 2

commandwindow

cear

clc

close all

syms t

t=[0:0.01:2.5]

d =1.5\*exp(-0.75\*t)\*sin(0.85\*t)+0.375\*t

V= diff(d)

V=subs(V,t)

a=diff(V)

a=subs(a,t)

figure (1)

plot(t,V,t,a)

xlabel('t(munites)')

ylabel('variable')

legend V=velocity-time

legend a=acceleration-time

grid on

grid minor

%% question 3

commandwindow

clear

clc

close all

syms x

y = 5\*(sin(5\*x))^5

x = [0 : 3.142]

format rat

A = int(y)

B = subs(A,x)