clc,clear

%Variant 3

%task 1

disp('---Task 1---')

A=[-sqrt(5),2;3,sqrt(5)];

B=[9;-sqrt(5)];

A1= A;

A2= A;

A1(:,1)=B;

A2(:,2)=B;

x1 = det(A1)/det(A)

x2 = det(A2)/det(A)

x = [x1;x2];

A\*x

B

figure(1);

p=[-10:0.5:10];

y1=((9+sqrt(5).\*p)./2);

hold on,grid on

plot(p,y1,'r')

y2=((-sqrt(5)-3.\*p)./sqrt(5));

plot(p,y2,'c')

plot(x1,x2,'.r')

text(x1,x2,'M')

%task 2

disp('---Task 2---')

syms x y

X=[

x;

y;

];

X=A^-1\*B

X=A\B

%task 3

disp('---Task 3---')

syms z

A=[

15, 3, 12;

3, 4, 8;

-17, 12, 14;

]

B=[

2;

2;

2

]

X=[

x;

y;

z

]

X=inv(A)\*B

disp('---Task 4---')

A=[1, -2, 3];

B=[0, -1, 2];

C=[3, 4, 5];

AB=B-A;

AC=C-A;

sc=dot(AB,AC)

norm(AB);

norm(AC);

cosa=sc/(norm(AB)\*norm(AC))

sina=sqrt(1-cosa^2)

S=(sina\*norm(AB)\*norm(AC))/2

%проверка

c=cross(AB,AC)

S=1/2\*(norm(c))

disp('---Task 5---')

AB=[ -2 0 4 ]

AC=[-1 7 1]

AD=[4 -8 -4 ]

A=[

-2, 0, 4;

-1, 7, 1;

4, -8, -4;

]

Vp=abs(det(A))

V=Vp/6