ÖDEV2

1.a)

```
f=@(x) 13*x^3 + 182*x^2 - 184*x + 2503;
parameters=[13,182,-184,2503];
roots(parameters)
```

1.b)

```
g=@(x) 70*x^3 + 24*x^2 - 10*x + 20;
parameters2=[70,24,-10,20];
roots(parameters2)
```

2.a)

```
u=@(x)2.*log(60*x+1);
v=@(x)3.*cos(6*x);
x=linspace(0,2,10);
plot(x,u(x),'b',x,v(x),'r')
```

2.b)

```
syms x y
%denk1=y-2.*log(60*x+1)==0;
%denk2=y-3.*cos(6*x)==0;
%cevap=solve([denk1 denk2],[x y]);
cevap = vpasolve([3.*cos(6*x) == 2.*log(60*x+1) == y], [x,y])
```

3)

```
syms f(x);
a=1:2:7;
f(x)=cumsum(sin(a.*x)./a);
x=-pi:0.1:pi;
fplot(f,[-pi,pi]);
hold on;
syms y(b)
y(b) = piecewise(b<0, -1, b>=0, 1);
fplot(y,[-pi,pi]);
```

4)

```
%cycloid kavram?n? tam oturtamad?m yanl?? olabilir.
r=10;fi=0:0.1:4*pi;
x=r.*(fi-sin(fi));
y=r.*(1-cos(fi));
plot(x,y,'b')
```

5)

```
A=[3,7,-4,12;-5,9,10,2;6,13,8,11;15,5,4,1];
max(A);
min(A);

[m,i]=min(A);
[m,i]=min(A,[],2);
m;

[n,i]=max(A);
[n,i]=max(A,[],2);
n;
```

6)

```
a=[3,7,-4,12;-5,9,10,2;6,13,8,11;15,5,4,1];
b=sort(a)
c=[sort(a(1,:));sort(a(1,:));sort(a(3,:));sort(a(4,:))]
n=1:4;
d=sum(a);
e=sum(a');
```

7)

```
A=[1,4,2;2,4,100;7,9,7;3,pi,42];
B=log(A);

B(2,:);

sum(B(2,:));

C=B(:,2).*A(:,1);
sum(C);

B(1,:)./A(1:3,3);
```

8)

```
sym x;
f=@(x)20.*x.^2 + 200*x +3;x=-10:0.1:10;
[f0, i0] = min(f(x)); x0 = x(i0);
plot(x, f(x), 'b-', x0, f0, 'ro');

sym x;
f=@(x)20.*x.^2 + 200*x +3;x=-10:0.1:10;
a=fminbnd(@(x) f(x),-10,10);
plot(x, f(x), 'b-', a,f(a), 'ro');
```

10)

```
a=[-4,3,1;5,6,-2;2,-5,4.5];
b=[ -18.2;-48.8;92.5];
c=inv(a)*b
```

11)

```
f = @(T,V) 35.74 + 0.6215*T - 35.75*V.^0.16 + 0.4275*T.*V.^0.16;
t = 40:-10:-40;
v = 10:10:60;
[T,V] = meshgrid(t,v);
Trs = f(T,V);
fprintf('          Fiziksel s?cakl?k (F)\n');
fmt = ['      |', repmat('%3.0f   ',1,9), '\n'];
fprintf(fmt,t);
fprintf(['  V   ', repmat('-', 1, 55), '\n']);
fmt = ['%3.0f   |', repmat('%3.0f   ',1,9), '\n'];
fprintf(fmt, [v', Trs]');
```

12)

```
ab=0:0.05:0.95;
c=@(ab)0.265.*(1-ab)+(0.857+0.265.*ab)./(1-ab).^(3/2);
fprintf(' a/b |');
fprintf('%9.3f ',ab);
fprintf('\n');
fprintf([' ', repmat('-', 1, 220), '\n']);
fprintf(' c   |'); fprintf('%9.3f ',c(ab));
```

13)

```
x1=3.5; y1=2; a1=8.5; b2=3;
ellipseplot(x1,y1,a1,b2);
plot(x,y,'-');

hold on;

x2=3.5; y2=2; a2=8.5; b2=3;
ellipseplot(x2,y2,a2,b2);
plot(x,y,'-');

%plot sat?r? hatal? gösteriyor ama birçok sitede böyle kullan?lm??.

function sonuc= ellipseplot(xc,yc,a,b)
t=0:0.01:2*pi;
x=xc+a.*cos(t);
y=yc+b.*sin(t);
sonuc=[x,y];
end
```

14)

```
a=[1,3,5;3,9,2;11,8,2];
b={'fred','ralph';'ken','susan'};
c=[4;6;3;1];
sample_cell={a,b,c};

for i=1:3;
if(sample_cell{1,i}==a)
disp(sample_cell{1,i});
end
end

for i=1:3;
if(sample_cell{1,i}==a)
disp(sample_cell{1,i}(3,:));
end
end

sample_cell{1,2}(1,1);

%emin degilim
```