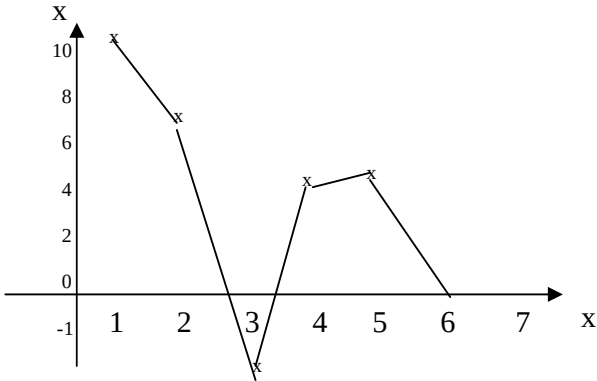


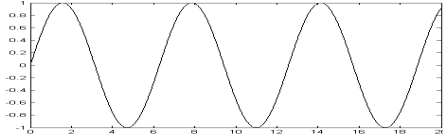
MATLAB'da grafik çizimi

$x=[1\ 2\ 3\ 4\ 5\ 6]$; $y=[10\ 7\ -1\ 5\ 6\ 0]$;
x-y düzleminde aşağıdaki grafiği elde ederiz.



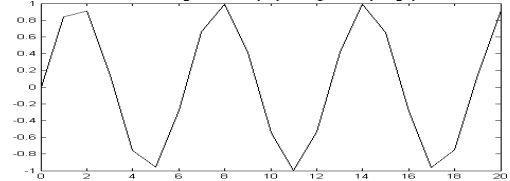
x'e karşılık y'yi çizmek için MATLAB komutu
`plot(x,y)`

```
>>x=0:0.1:20; y=sin(x); plot(x,y),
```

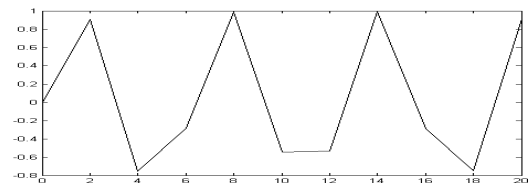


Graphic Resolution (çözünürlük)

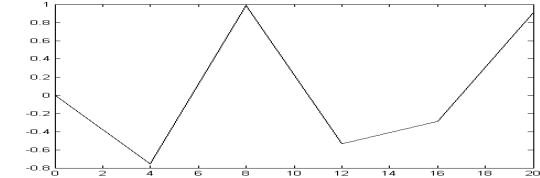
```
>>x=0:1:20; y=sin(x); plot(x,y),
```



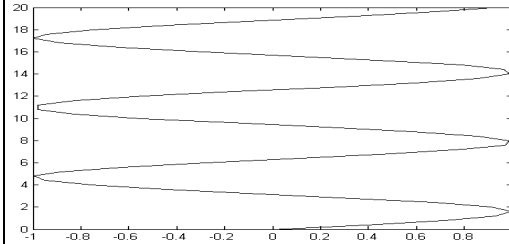
```
>>x=0:2:20; y=sin(x); plot(x,y),
```



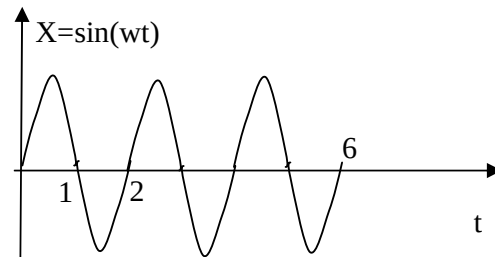
```
>> x=0:4:20; y=sin(x); plot(x,y),
```



```
>> x=0:0.1:20; y=sin(x); plot(y,x),
```



Problem 32: Aşağıdaki grafiği çiziniz.



Çözüm

```
t=0:0.1:6;
```

```
TT=2;
```

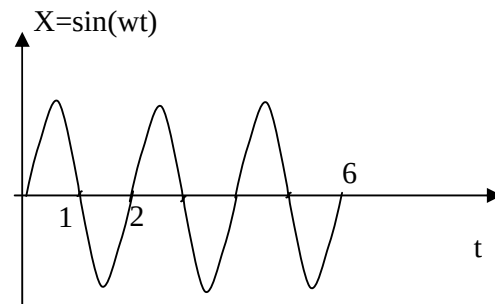
```
w=2*pi/TT;
```

```
x=sin(w*t);
```

```
plot(t,x);
```

```
t=0:0.1:6; TT=2; w=2*pi/TT; x=sin(w*t); plot(t,x);
```

Problem 33: Aşağıdaki grafiği çiziniz.

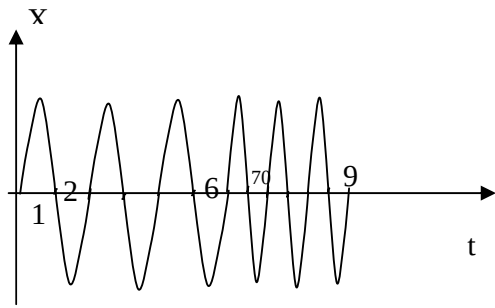


Solution

```
t=0:0.1:60; TT=20; w=2*pi/TT; x=sin(w*t); plot(t,x);
```

Problem 34: Aşağıdaki grafiği çiziniz..

Note: frequency is doubled from $t=60$ to $t=90$



Solution

```
t1=0:0.1:60; TT1=20; w1=2*pi/TT1; x1=sin(w1*t1);

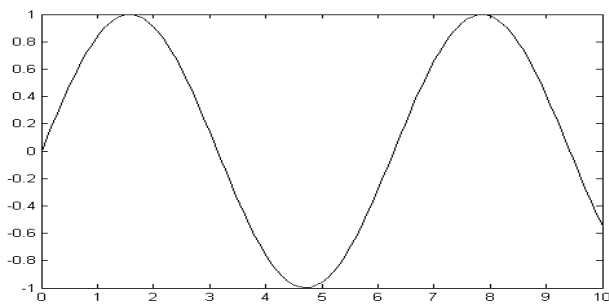
t2=60:0.1:90; TT2=10; w2=2*pi/TT2; x2=sin(w2*t2);

tTotal=[t1 t2]; xTotal=[x1 x2]; plot(tTotal,xTotal);
```

Problem 35: Draw $x=\sin(t)$ $t=0$ to 10

Solution:

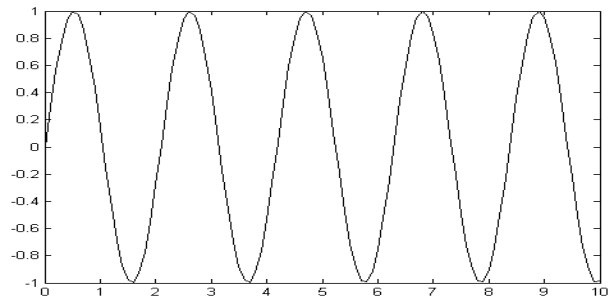
```
t=0:0.1:10; w1=1; x1=sin(w1*t); plot(t,x1);
```



Problem 36: Draw $x=\sin(3t)$ $t=0$ to 10

Solution:

```
t=0:0.1:10; w1=3; x1=sin(w1*t); plot(t,x1);
```

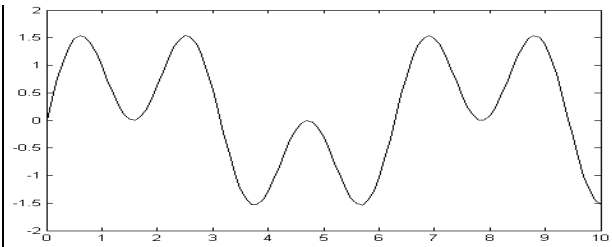


Problem 37: Draw $x= \sin(t) + \sin(3t)$ $t=0$ to 10

Solution:

```
t=0:0.1:10; w1=1; w2=3;
```

```
x1=[sin(w1*t)+sin(w2*t)]; plot(t,x);
```



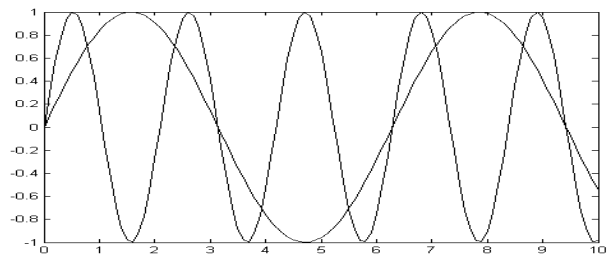
Problem 38: Draw $x1= \sin(t)$ and $x2= \sin(3t)$ $t=0$ to 10

Solution

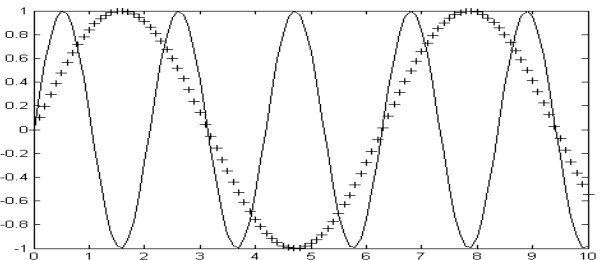
```
t=0:0.1:10; w1=1; w2=3;
```

```
x1=[sin(w1*t)]; x2=[sin(w2*t)];
```

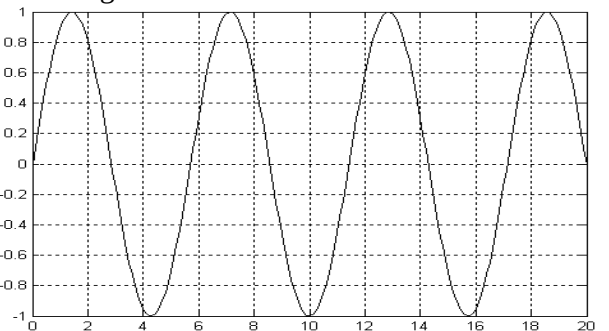
```
plot( t, x1 , t , x2 );
```



```
plot( t, x1 ,'+', t , x2 );
```



Exercise 57. Find the period and frequency of the following sinewave



T= f= w=

T=17/3=5.666 ???