```
pisi1@x_D = A * Exp@I * u * xD + B * Exp@ I * u * xD
   H* Burada u = k * a ve X = x a dir.
         kucuk x - a dan +a ya degisirken
         buyuk X de - 1 den +1 degisecektir
   *L
```

Out[1]= $B\, a^{-uX} + A\, a^{uX}$

```
pisi2@x_D = C * Exp@I * K1 * u * xD + D * Exp@ I * K1 * u * xD
   H* Burada K1 = K k dir.
       Goruldugu gibi "K" ve "k" nin mertebesi
      ayni oldugu muddetce K1 nin mertebesi 1 civarinda olacaktir
    *L
```

Out[2]= $D\, a^{-K1\,u\,X} + C\, a^{K1\,u\,X}$

In[3]:=
```
pisi3@x_D = F * Exp@I * u * xD
```

Out[3]= $a^{u\,X}\, F$

```
eq1 = pisi1@ 1D  pisi2@ 1D
  H* 1. ci sinir kosulu *L
```

Out[4]= $A\, a^{-u} + B\, a^{u} == C\, a^{-K1\,u} + D\, a^{K1\,u}$

```
eq2 = pisi1'@ 1D  pisi2'@ 1D
  H* 2. ci sinir kosulu *L
```

Out[5]= $A\, a^{-u}\, u - B\, a^{u}\, u == C\, a^{-K1\,u}\, K1\, u - D\, a^{K1\,u}\, K1\, u$

```
eq3 = pisi2@1D  pisi3@1D
 H3. cu sinir kosulu *L
```

Out[6]= $D\, a^{-K1\,u} + C\, a^{K1\,u} == a^{u}\, F$

```
eq4 = pisi2'@1D  pisi3'@1D
 Hve 4. cu sinir kosulu *L
```

Out[7]= $-D\, a^{-K1\,u}\, K1\, u + C\, a^{K1\,u}\, K1\, u == a^{u}\, F\, u$

```
ans = Solve@8eq1, eq2, eq3, eq4<, 8F, B, C, D<D
 H* denklem sisteminin cozumu, F,B,C, ve D nin elde edilmesi *L
```

Out[8]=
$$99F \to \frac{4\,A\,a^{-2\,u+2\,K1\,u}\,K1}{-1+a^{4\,K1\,u}-2\,K1-2\,a^{4\,K1\,u}\,K1-K1^2+a^{4\,K1\,u}\,K1^2},$$
$$B \to \frac{A\,a^{-2\,u}\,(-1+a^{4\,K1\,u})\,(-1+K1^2)}{-1+a^{4\,K1\,u}-2\,K1-2\,a^{4\,K1\,u}\,K1-K1^2+a^{4\,K1\,u}\,K1^2},$$
$$C \to \frac{2\,A\,a^{-u+K1\,u}\,(1+K1)}{-1+a^{4\,K1\,u}-2\,K1-2\,a^{4\,K1\,u}\,K1-K1^2+a^{4\,K1\,u}\,K1^2},$$
$$D \to \frac{2\,A\,a^{-u+3\,K1\,u}\,(-1+K1)}{-1+a^{4\,K1\,u}-2\,K1-2\,a^{4\,K1\,u}\,K1-K1^2+a^{4\,K1\,u}\,K1^2}\}\}$$

In[9]:=
```
F0 = F  A  HF . ans@@1DD@@1DDL  A
```

Out[9]=
$$\frac{F}{A} == \frac{4\,a^{-2\,u+2\,K1\,u}\,K1}{-1+a^{4\,K1\,u}-2\,K1-2\,a^{4\,K1\,u}\,K1-K1^2+a^{4\,K1\,u}\,K1^2}$$

In[10]:=
```
B0 = B  A  HB . ans@@1DD@@2DDL  A
```

Out[10]=
$$\frac{B}{A} == -\frac{a^{-2\ u}\,(-1+a^{4\ K1\,u})\,(-1+K1^2)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[11]:=
```
C0 = C  A  HC . ans@@1DD@@3DDL  A
```

Out[11]=
$$\frac{C}{A} == -\frac{2\,a^{-\ u+\ K1\,u}\,(1+K1)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[12]:=
```
D0 = D  A  HD . ans@@1DD@@4DDL  A
```

Out[12]=
$$\frac{D}{A} == -\frac{2\,a^{-\ u+3\ K1\,u}\,(-1+K1)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[17]:=
```
F1@u_, K1_D = Part@F0, 2D
```

Out[17]=
$$-\frac{4\,a^{-2\ u+2\ K1\,u}\,K1}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[19]:=
```
B1@u_, K1_D = Part@B0, 2D
```

Out[19]=
$$-\frac{a^{-2\ u}\,(-1+a^{4\ K1\,u})\,(-1+K1^2)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[20]:=
```
C1@u_, K1_D = Part@C0, 2D
```

Out[20]=
$$-\frac{2\,a^{-\ u+\ K1\,u}\,(1+K1)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

In[21]:=
```
D1@u_, K1_D = Part@D0, 2D
```

Out[21]=
$$-\frac{2\,a^{-\ u+3\ K1\,u}\,(-1+K1)}{-1+a^{4\ K1\,u}-2\,K1-2\,a^{4\ K1\,u}\,K1-K1^2+a^{4\ K1\,u}\,K1^2}$$

```
k = Sqrt@2 H10^-31L 8D  6.02*10^-32  H* parametre k *L
```

Out[23]=
$$2.10118\cdot 10^{-48}$$

```
K = Sqrt@2*H10^-31L 4D  6.02*10^-32  H* parametre K *L
```

Out[24]=
$$1.48576\cdot 10^{-48}$$

```
K2 = K  k                H* iki parametrenin orani *L
```

Out[25]=
$$0.707107$$

```
0.7071067811865475`
H* bu aslinda Sqrt@2D 2 dir *L

F2 @u_D = F1@u, K2D  H* Katsayi F A*L
```

Out[36]=
$$-\frac{2.82843\ a^{-0.585786\ u}}{-2.91421+0.0857864\ a^{2.82843\ u}}$$

```
B2@u_D = B1@u, K2D H* Katsayi B A *L
```

Out[30]=
$$\frac{0.5\ a^{-2\ u}\,(-1+a^{2.82843\ u})}{-2.91421+0.0857864\ a^{2.82843\ u}}$$

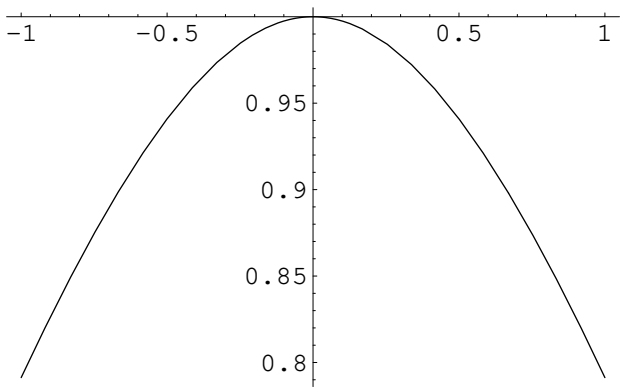
```
C2@u_D = C1@u, K2D   H*katsayi C A *L
```

Out[38]= $-\dfrac{3.41421\ a^{-0.292893\ u}}{-2.91421 + 0.0857864\ a^{2.82843\ u}}$

```
D2@u_D = D1@u, K2D   H* Katsayi D A *L
```

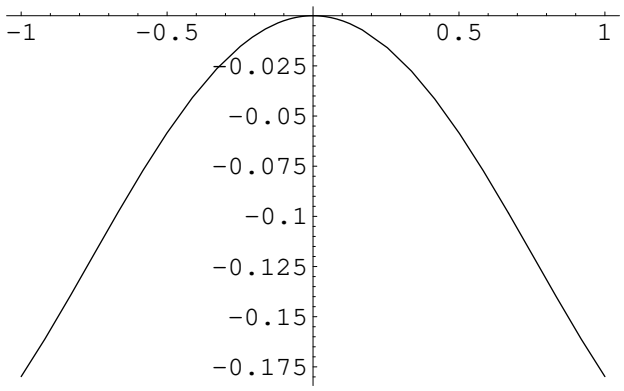
Out[39]= $\dfrac{0.585786\ a^{1.12132\ u}}{-2.91421 + 0.0857864\ a^{2.82843\ u}}$

```
Plot@Re@C2@uDD, 8u, - 1, 1<D H* Reel kismin grafigi *L
```

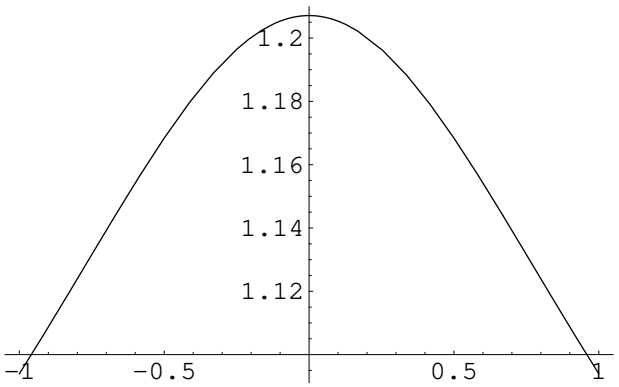


Out[40]= Graphics

```
Plot@Re@D2@uDD, 8u, - 1, 1<D H* Reel kismin grafigi *L
```

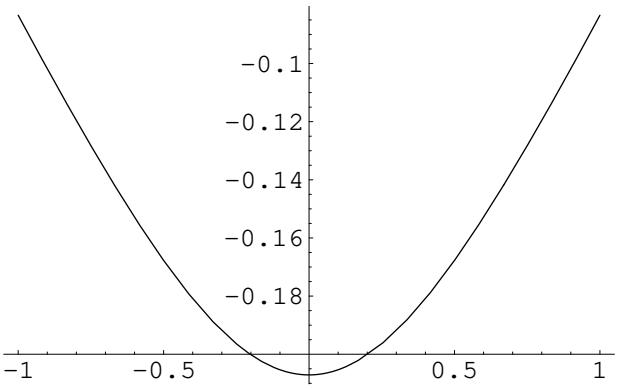


```
Plot@Re@C2@uDD, 8u, -1, 1<D H* Reel kismin grafigi *L
```



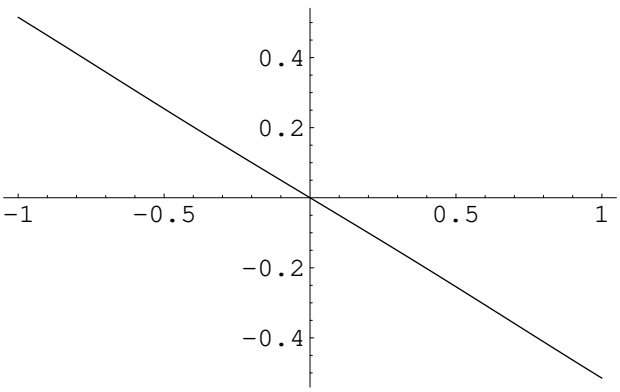
Out[42]= Graphics

```
Plot@Re@D2@uDD, 8u, -1, 1<D
H* Reel kismin grafigi *L
```



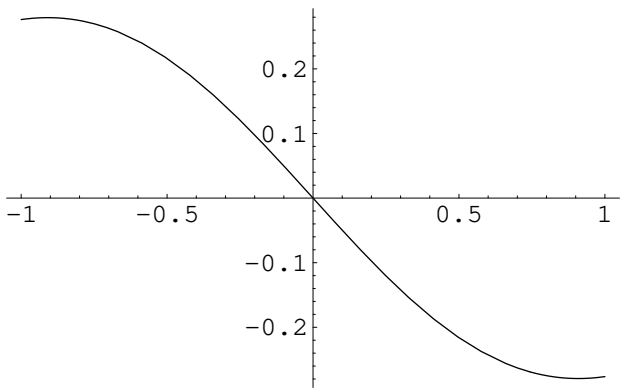
Out[43]= Graphics

```
Plot@Im@F2@uDD, 8u, -1, 1<D
H* Sanal kismin grafigi *L
```



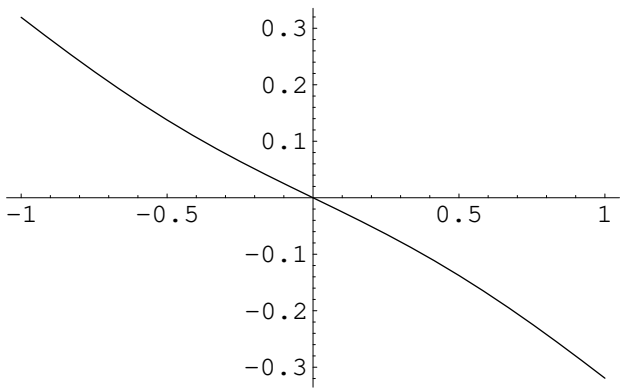
Out[44]= Graphics

```
Plot@Im@Ø2@uDD, 8u, - 1, 1<D
H* Sanal kismin grafigi *L
```



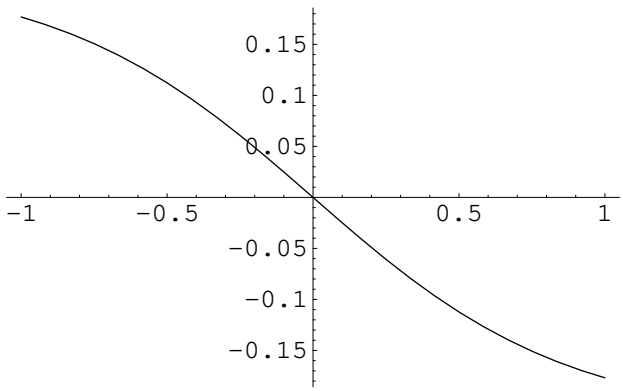
Out[45]= Graphics

```
Plot@Im@Ø2@uDD, 8u, - 1, 1<D
H* Sanal kismin grafigi *L
```



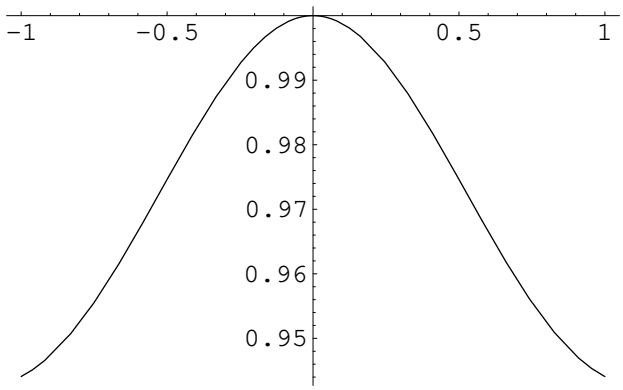
Out[46]= Graphics

```
Plot@Im@Ø2@uDD, 8u, - 1, 1<D
H* Sanal kismin grafigi *L
```



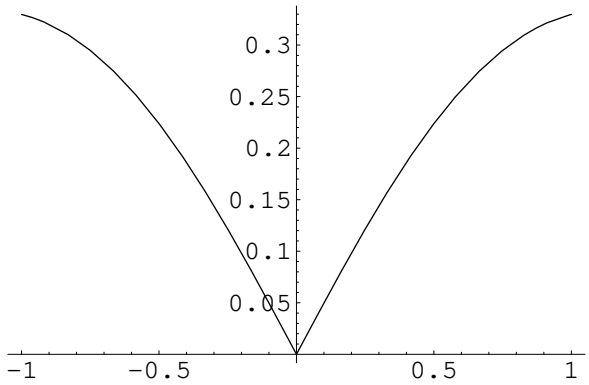
Out[47]= Graphics

```
Plot@Abs@F2@uDD, 8u, -1, 1<D
H* Mutlak kismin grafigi *L
```



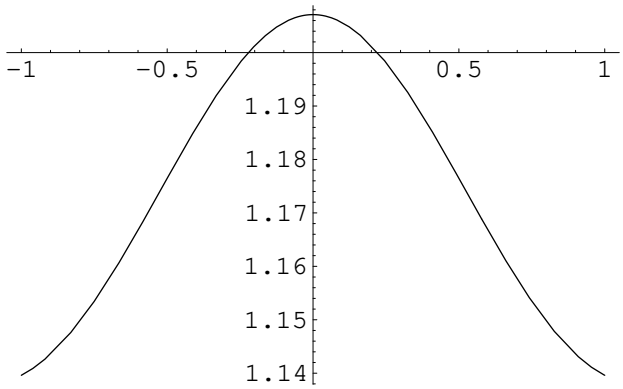
Out[48]= Graphics

```
Plot@Abs@B2@uDD, 8u, -1, 1<D
H* Mutlak kismin grafigi *L
```



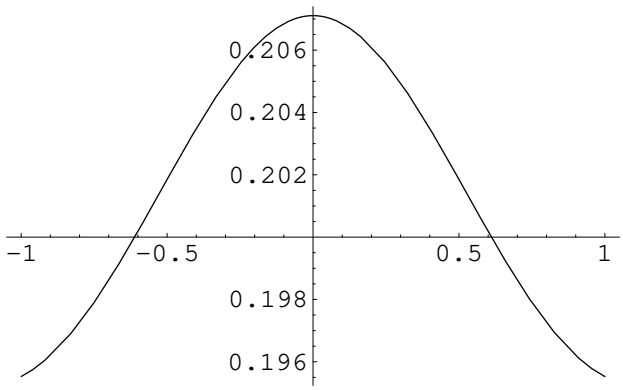
Out[49]= Graphics

```
Plot@Abs@C2@uDD, 8u, -1, 1<D
H* Mutlak kismin grafigi *L
```



Out[50]= Graphics

```
Plot@Abs@D2@uDD, 8u, -1, 1<D
H* Mutlak kismin grafigi *L
```



Out[51]= Graphics