```
>> syms x y t s
>> laplace(cos(t),t,s)

ans =

s/(s^2 + 1)

>> ilaplace(1/(s^2+1),s,t)

ans =

sin(t)

>> eqn=sym('D(D(y))(t)+y(t)=sin(2*t)');
>> lteqn=laplace(eqn,t,s)

lteqn =

s^2*laplace(y(t), t, s) - s*y(0) - D(y)(0) + laplace(y(t), t, s) == 2/(s^2 + 4)

>> syms Y
>>  Yeqn = subs(lteqn, {'laplace(y(t),t,s)','y(0)','D(y)(0)'},{Y,1,0})

Yeqn =

Y*s^2 - s + Y == 2/(s^2 + 4)

>> Ytrans=simplify(solve(Yeqn,Y))

Ytrans =

(s + 2/(s^2 + 4))/(s^2 + 1)

>> y=ilaplace(Ytrans,s,t)

y =

cos(t) - sin(2*t)/3 + (2*sin(t))/3

>>
```