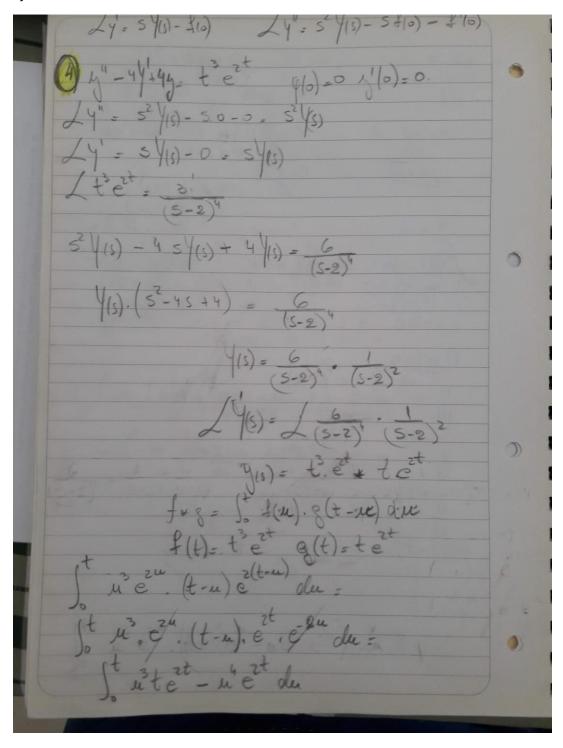
Ejercicio 2

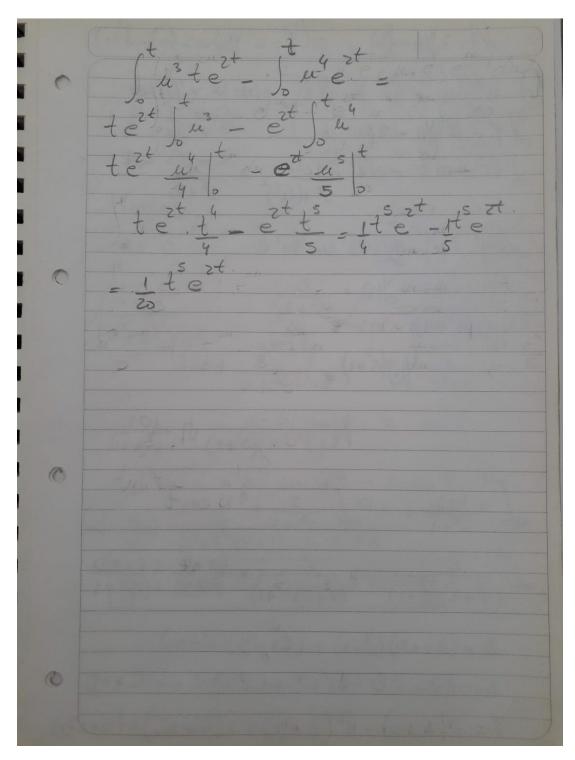
7	Ly=sy(s)-f(0) Ly"= s2y(s)-sf(0)-f(0)
	13" -4 2' = 6e3t-3et 5(0)=1 5'(0)=-1
7 7	$\int y'' = s^2 \gamma(s) - s + 1$ $\int -\gamma \gamma' = -4.(s \gamma(s) - 1)$
	$2 6e^{3t} = 6 \frac{1}{5-3} 2 - 3e^{2} = -3 \frac{1}{5+1}$ $(5^{2} 1/5) - 5 + 1 - 4 (51/5) - 1 = 6 - 3 - 3 - 5 + 1$
7 7	$\frac{3^{2}}{4^{(5)}} = \frac{3}{5} + 1 - \frac{3}{5} = \frac{3}{5} + \frac{3}{5} = \frac{3}{5} = \frac{3}{5} + \frac{3}{5} = $
	5-3 S+1 = 6 + 3 + S - 5 S-3 S+1
	$\sqrt{(s)} = \frac{c}{(s-3)(s^2-4s)} = \frac{3}{(s+1)(s^2-4s)} + \frac{s-s}{(s^2-4s)}$
3	$= \frac{6(s+1)+3(s-3)+(s-5)(s-3)(s+1)}{(s-3)(s^2-4s)(s+1)}$
2	(s+1)-3(s-3)+(s-5)(s-3)(s+1) = A + B + C + D (s-3)-3(s-3)+(s-5)(s-3)(s+1) = A + B + C + D
	(541)-3(5-3)+(5-5)(5-3)(5+1)=A=(5-4)(5+1)+ $B(5-3)(5-4)(5+1)+$ $C(5-3)(5,(5+1)+$ $D(5-3)(5,(5-4))$
2	5 (5-5), 5, (3-1)

```
0
0
0
```

```
>> y=dsolve('D2y-4*Dy=6*exp(3*t)-3*exp(-1*t)','y(0)=1','Dy(0)=-1') 
y =  (11*exp(4*t))/10 - (exp(-t)*(40*exp(4*t) - 50*exp(t) + 12))/20  >> simplify(y) 
ans =
```

Ejercicio 4



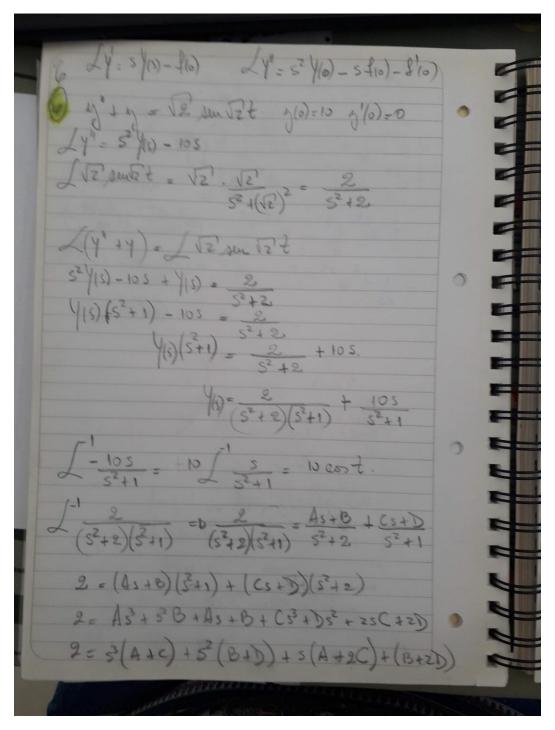


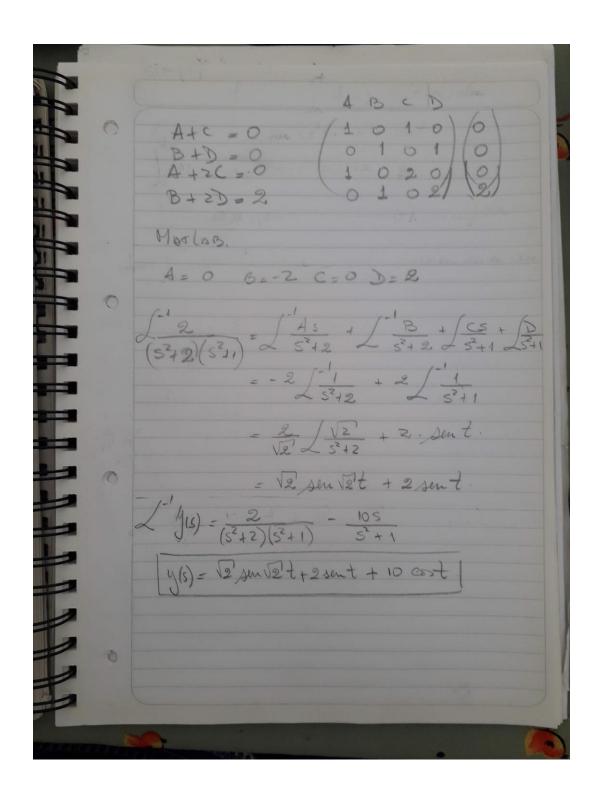
 $y=dsolve('D2y-4*Dy+4*y=t^3*exp(2*t)','y(0)=0','Dy(0)=0')$ 

y =

(t^5\*exp(2\*t))/20

Ejercicio 6





>> coef=[1 0 1 0;0 1 0 1;1 0 2 0;0 1 0 2]

coef =

1 0 1 0

0 1 0 1

```
1 0 2 0
            0 1 0 2
>> res=[0;0;0;2]
res =
            0
            0
            0
             2
>> r=inv(coef)*res
r =
            0
          -2
            0
             2
y=dsolve('D2y+ y = sqrt(2)*sin(sqrt(2)*t)','y(0)=10','Dy(0)=0')
  y =
   10 * \cos(t) - \sin(t) * ((2^{(1/2)} * \cos(t * (2^{(1/2)} - 1))) / (2 * 2^{(1/2)} - 2) + (2^{(1/2)} * \cos(t * (2^{(1/2)} + 1))) / (2 * 2^{(1/2)} + 1)) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) ) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 * 2^{(1/2)} + 1) / (2 
 1)))/(2*2^{(1/2)} + 2)) + \sin(t)*(2^{(1/2)}/(2*2^{(1/2)} - 2) + 2^{(1/2)}/(2*2^{(1/2)} + 2) +
(2^{(1/2)*(2^{(1/2)}-1)}/(2^*2^{(1/2)}-2)-(2^{(1/2)*(2^{(1/2)}+1)}/(2^*2^{(1/2)}+2))-
cos(t)*((2^{(1/2)}*sin(t*(2^{(1/2)}-1)))/(2*2^{(1/2)}-2)-(2^{(1/2)}*sin(t*(2^{(1/2)}+1)))/(2*2^{(1/2)}-2)
+ 2))
  >> simplify(y)
  ans =
   10*\cos(t) + 2*\sin(t) - 2^{(1/2)}*\sin(2^{(1/2)}*t)
```