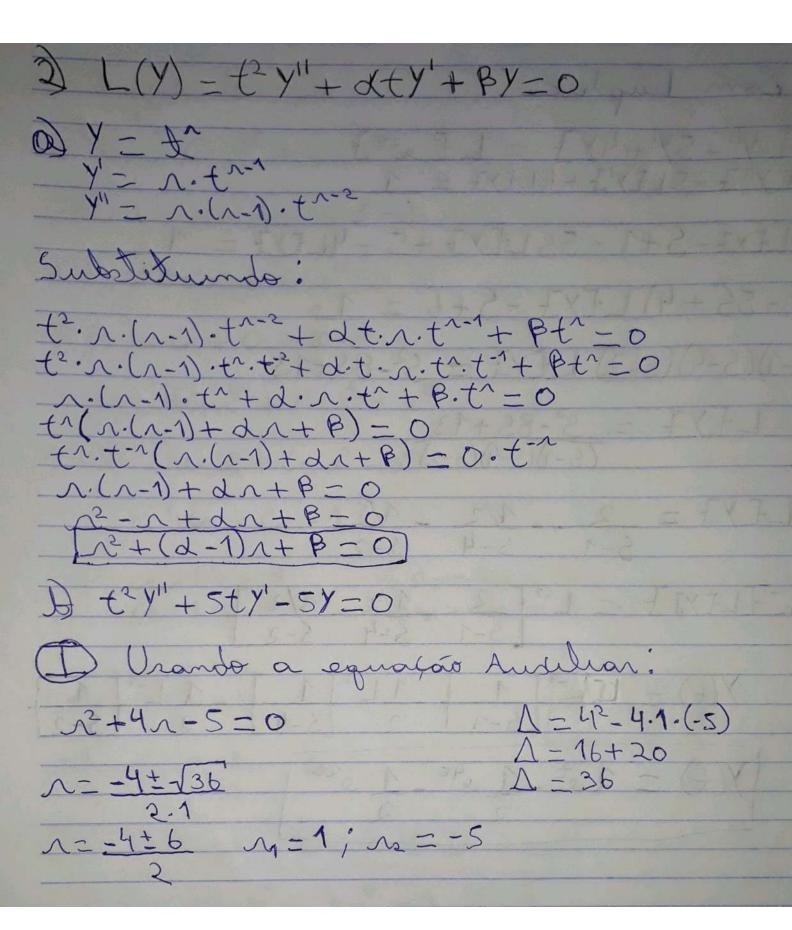
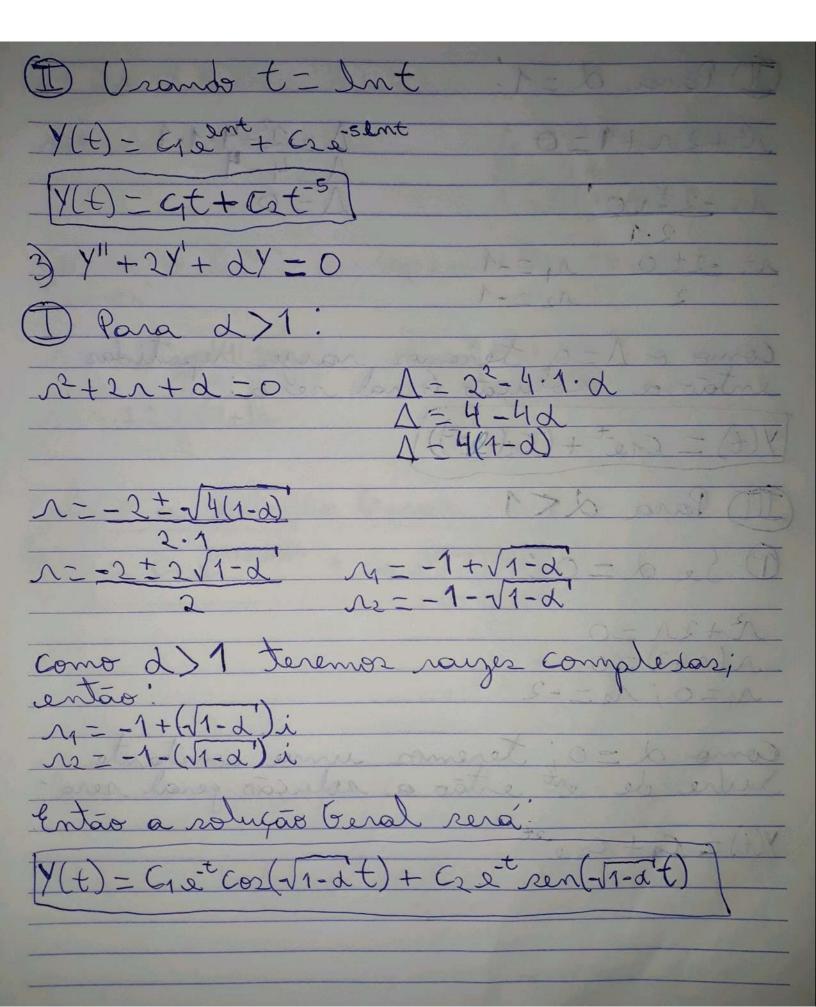
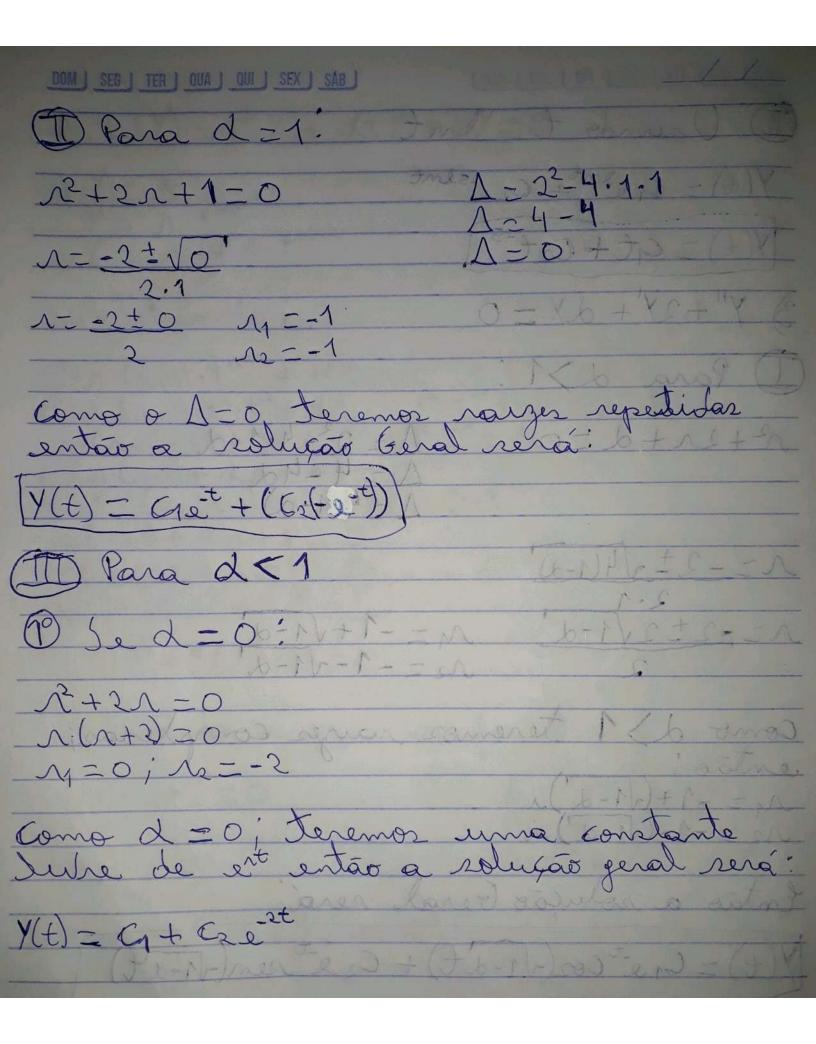
$\int [y'' - 5y' + 4y = e^{2t}]$ [y(0) = 1; y'(0) = -1]a) Sem Laplace D'ulilyando a equação audi 1=(-5)2-4.1.4 ~2-5~+1=0 1=25-16 1=-L-5) + v9 /1(t)= Get; /2(t)= Czet soluções fundamentais D Supondo que /p=Ae2t Yp(t) = 2Ae2t Yp(t) = 4Ae2t Substituendo na equação: 4Ae2t-3.(2Ae2t)+4.(Ae2t)= e2t /p(t) = -1 et (Solução particular)

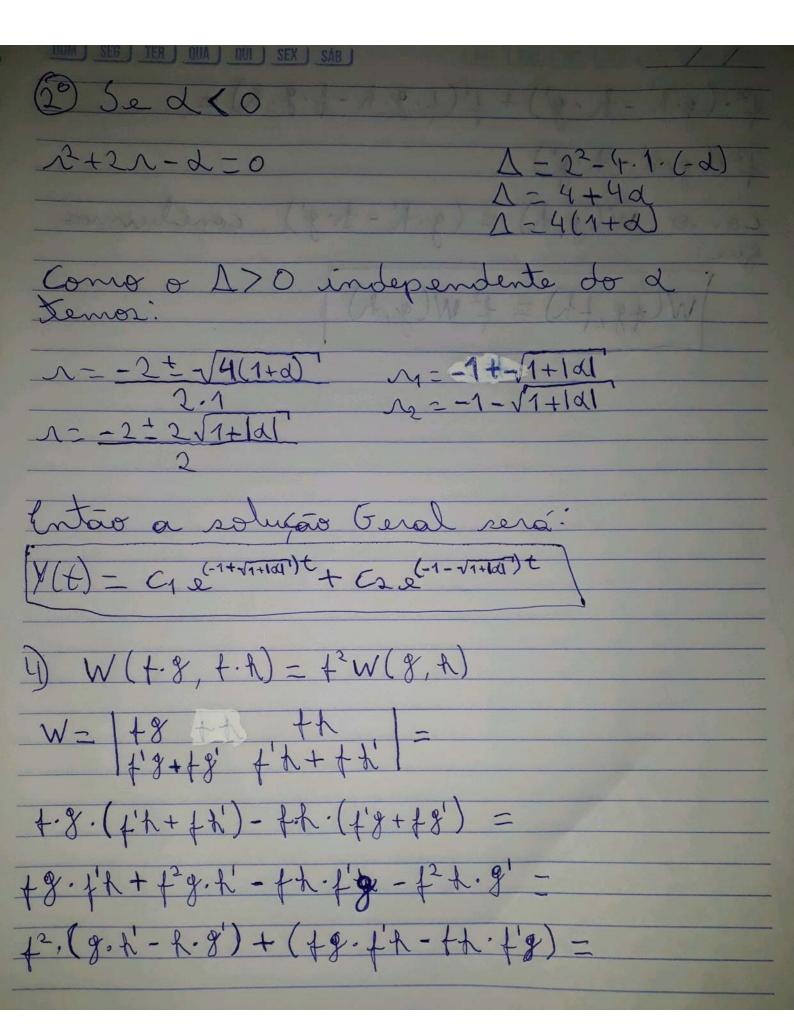
Solução Geral: Y(t) = C1 1t + c2 et - 1 et OD Urando os dados i Y(0)=4°+62°-1° Y(0)= Cy+ C2-1 y'(t) = 40 et + cret - et Y'(0)=442+62-2 Y'(0) = 49+6-1 G+ c2-1/2=1 C1 + C2 = 3/2 49+62-1=-1 19+62=0 61+62=3/2 -3 4 = 3/2 -14-62=0 C1 = 3/2 C2 = 2 -1 + 62 = 3 1) Solução do Y(t) = -1 et + 2 et -1 et

£y7-5+1-55Lfy7+5+4Lfy7 (5-1)(5-4)(5-2) L= $1/7 = 5^2 - 85 + 13$ $L = 5^2 - 85 + 13$ (5-1)(5-1)(5-2) $A + B + C = 5^2 - 85 + 13$ 5-1 5-4 5-2 (5-1)(5-4)(5-2) $A.(5-4)(5-2) + B(5-1)(5-2) + C(5-1)(5-4) = 5^2 - 85 + 13$ (5-1) (5-2) (5-4) (5-1)(5-2)(5-4) Para 5=4:









DOM) SEB TER OUA OUI SEX SAB $f^2 \cdot (g \cdot h' - h \cdot g') + f'(f \cdot g \cdot h - f \cdot g \cdot h) =$ $f^2 \cdot (g \cdot h' - h \cdot g')$ Como $W(g, h) = (g \cdot h' - h \cdot g')$ concluinos

que: $W(fg, fh) = f^2 W(g, h)$