Saturday, October 24, 2020 6:15 PM $0 r^2 - 4r - 12 = 0$ $(X - \zeta)(X + Z) = 0$ x=6 x=-29+12-12 Part e use the power in the right side Ac-2+ + 13p6+ -5e-3+=-5 7A+B-5=-5 -2e^{-2t}A+6e^{6t}B+15e^{-3t}=-33 -2A+6B+15=-33A+13=0 2A+2B=0 -2A+6B=-48813=-48 B=-6/A-6 (#2) r2-9r+18=0 b) (x-6)(x-3) = 0X=6, X=3n) Ae 6+ + Be 3t F) yp = Ce 6t 9'p = 6Ce6t 9"p = 36 Ce 6+ 36 Ce^{6t} - 54 Ce^{6t} + 18 ce^{6t} = -15e^{6t} OC = -15 Ae 6+ Be 3+ - 5+2 = / $6Ae^{6t} + 3Be^{3t} - 5(e^{6t} + 6e^{6t}) = 10$ 6A + 3B - 35 = 10_42+39=-3 6A+3B=45 -3(A+B=1) -3A-3B=-3 J= (1-B)e6+Be3+-Ste67 A+B=1 Ae6+.6+Be3+.3-5(e6+6e6+) A(6) + B(3) - 5 = 106A+3B=15 -3A-3B=-3 3A = 12A+B=1 13 =-3 6) (x+2)(x+2) = 0X = -2, x = -2 $\frac{2}{(3)^{2}+9(3)+4} = \frac{-50}{25} = -2e^{3t}$ F) A C + B+ C - 2+ - 2 C 3+ 9) Ac-2++Bte-2+-2=3+=-5 A-2--5 => A=-3 -2AC2+13(e-2+-2e-2++)-6e3t=1 -2A+B(1)-6=1-2A+B-6=1 -2A+B-1 -2(-3)+B=76+B=7 => (B=1) (4) a) $r^2 - 8r + 16 = 4e^{4t}$ $b) \left(\chi - \mathcal{U} \right) \left(\chi - \mathcal{U} \right) = 0$ PACHT BLEHE 2 2 4+ 1) Aeut + Bte + 2 + 2 + 2 = 7 $A = \frac{1}{4} \cdot 4 + B(e^{4} + 4e^{4} + 1) + 2(e^{4} + e^{4} + e^{4}) = 2k$ A(4) + B(1) + 2(0) = 264 1 3 - 2 6 4(7)+13-26 25+13=26 3 - 2

8) Second Order