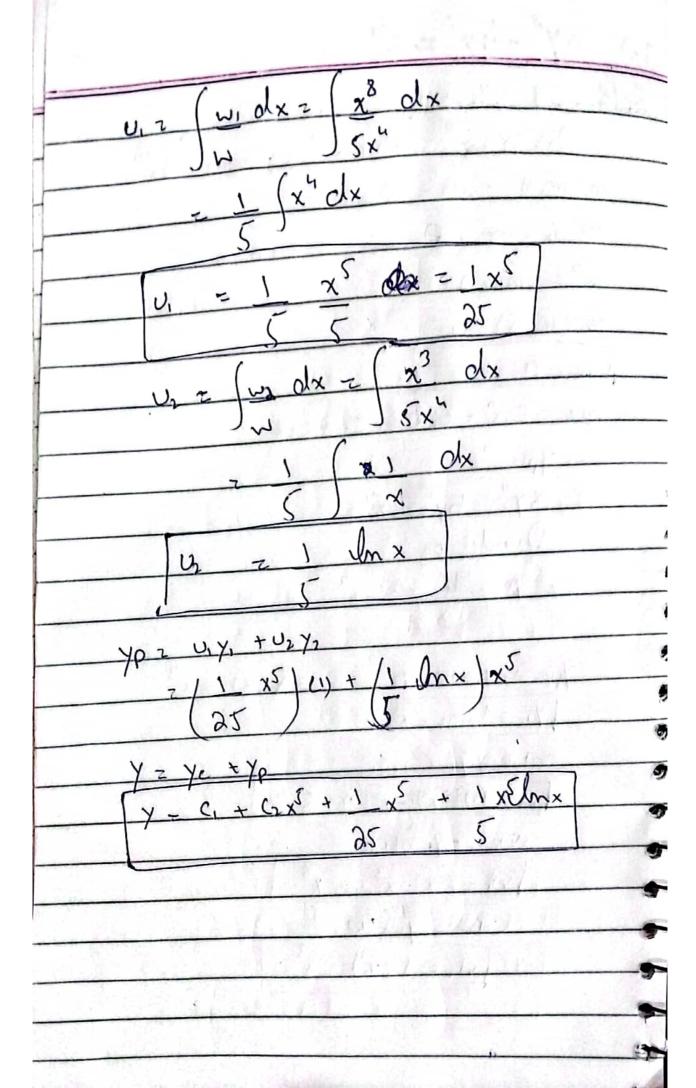
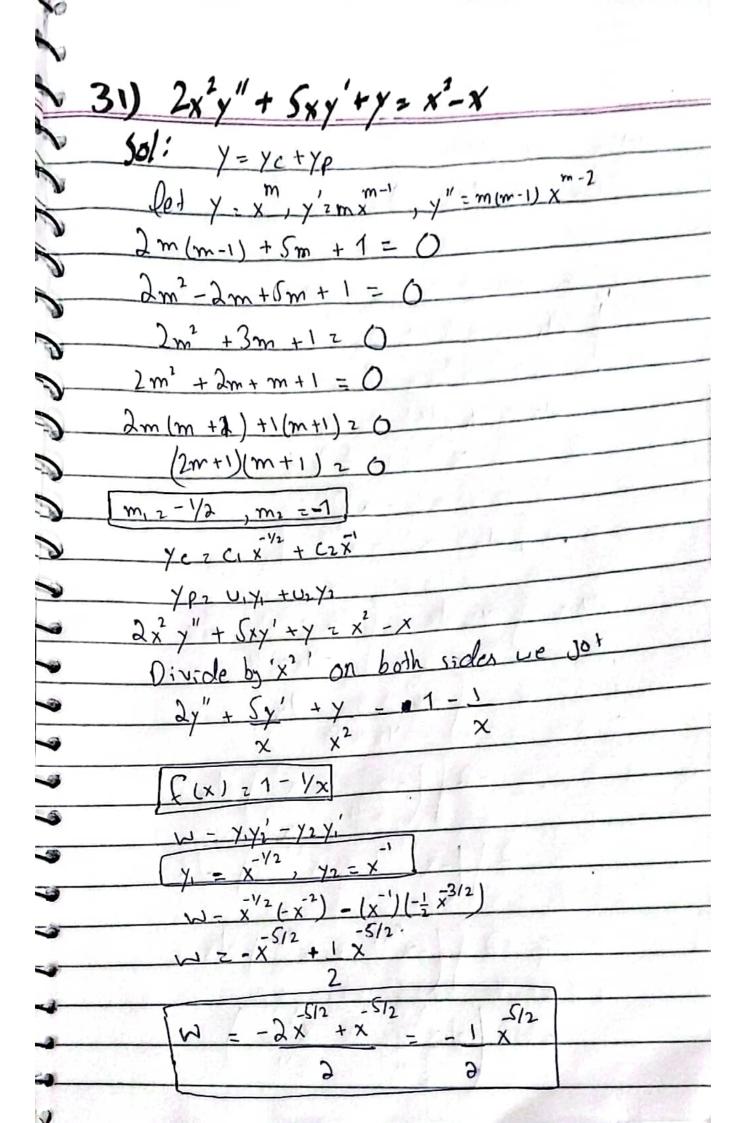
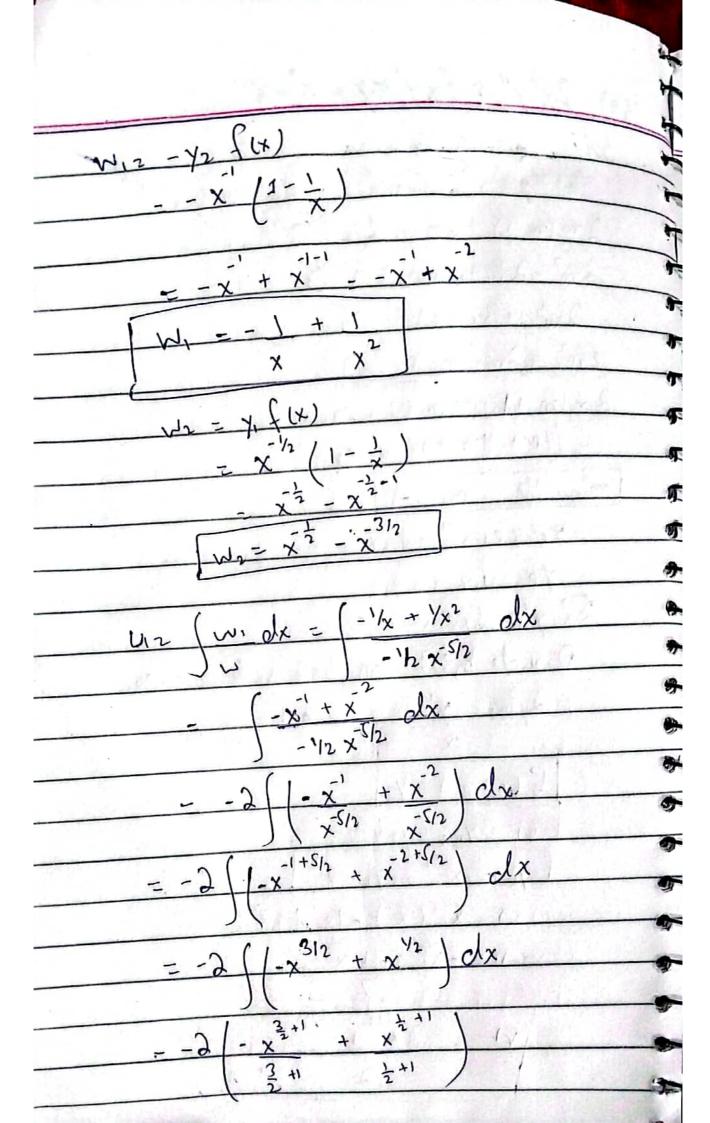
Qzaj Ex#6.4 501: X So, & (x) = 1 ~= (1)(x) - (dnx)(0) = 1x W, = - yafix) = - lnx (1) 2 - lnx y,f(x)=1(1)

Yx. 9 Inx + x2 lmx - x2 + x

30)  $xy'' - 4y' = x^4$ Solo y = Yc + Yp let y = x y'= mx y"= m(m-1) x m-2 m (m-1) - 4m = 0 m2-m- hm = 0 m (m-5)20 m, 20, m, 25 yc = C1x° + C2x5 = C1 + C2x5 Yp = ? xy" - 4y' = x4 Divide by 'x'  $y'' - 4 y' = x^3$ 1/2 U, y, + U2 /2 , f(x) = x3 Y, =1, J2 = x5 W= 7.42' - 724. 12-11(2x)-x5(0) 2 5x5 W = - Y= f(x) W = - x 5. x 3 - x 8 Wz = y, f(x) M= 1(x3)= x3



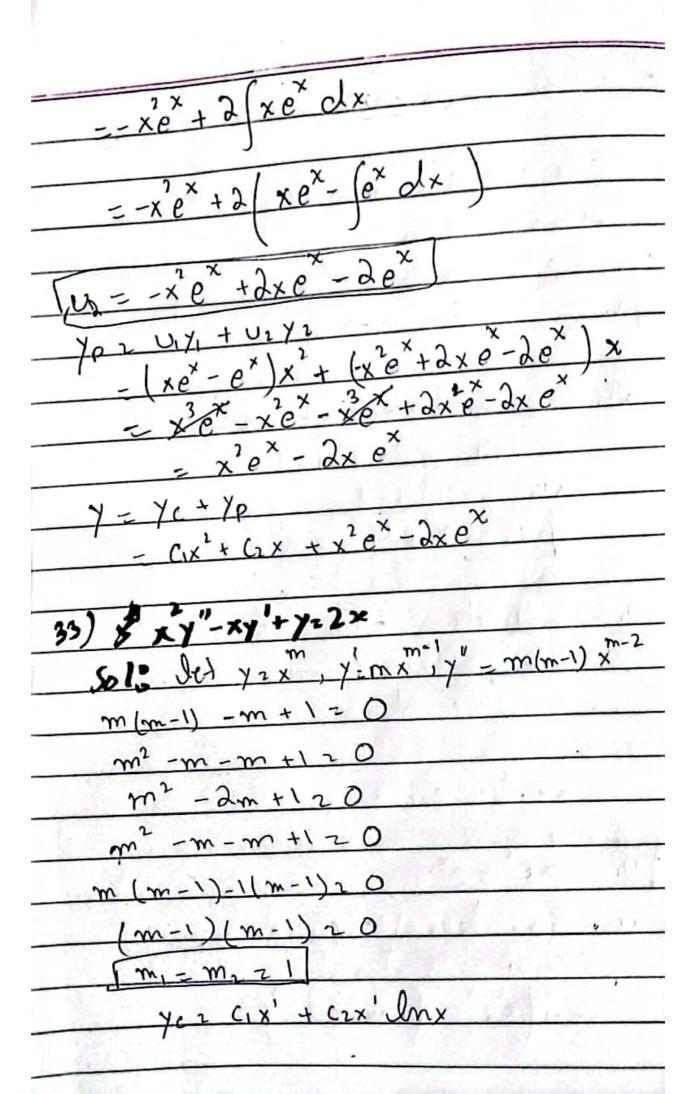




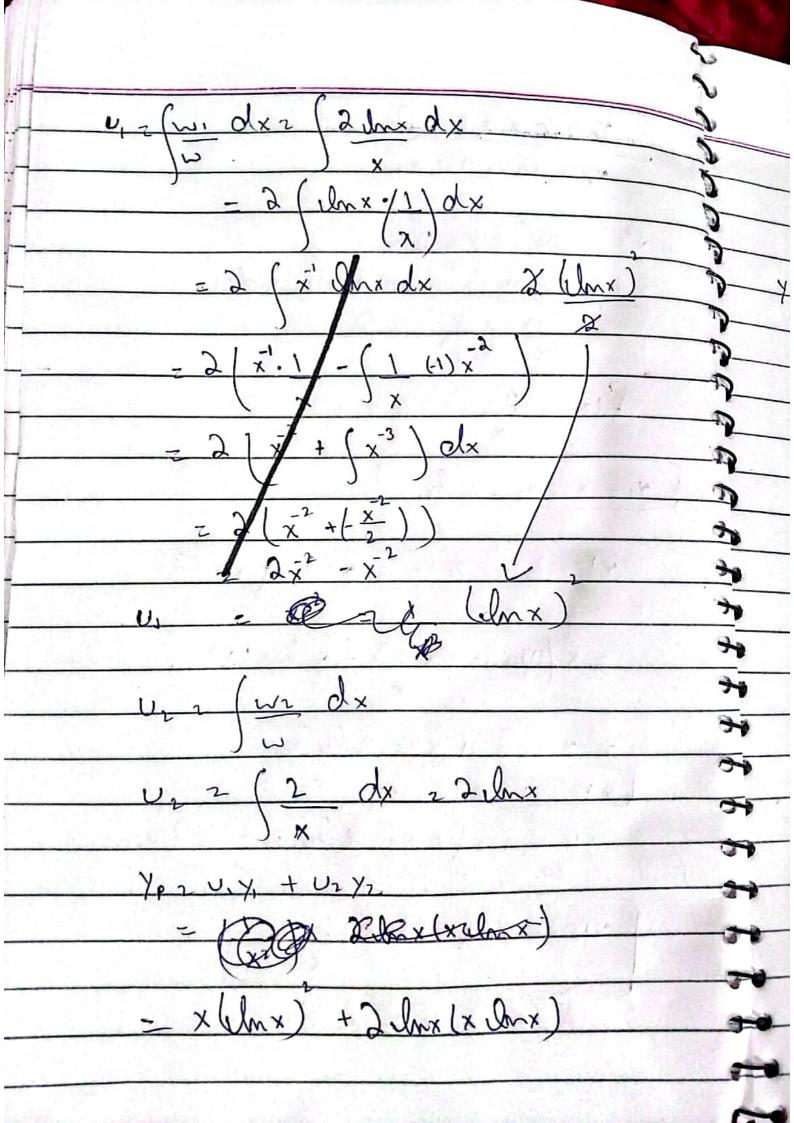
3/2 512 000 512 312 X 3/2 512 χ × -1/2 x3/2 2

 $x^{2}y'' - 2xy' + 2y = x^{4}e^{x}$ Solily=x<sup>m</sup>, y'2 m x<sup>m-1</sup>, y''= 32) (m-2)-1 (m-2)20 1m-2) (m-1) 20 YE 7 C1 x2 + C2X Y, = x2, Y2 = x x2 y" - 2xy +2y = x'e Divide by x

xex 2 ex ex dx ULZ VU,



CIX + CIX lox + y = 2 x on both sides × × 7, 42 - 1/2 41



$$= \frac{x(\ln x)^{2} + 2x(\ln x)^{2}}{-3x(\ln x)^{2}}$$

$$= \frac{3x(\ln x)^{2}}{-3x(\ln x)^{2}}$$

$$= \frac{3x(\ln x)^{2}}{-3x(\ln x)^{2}}$$

$$= \frac{3x(\ln x)^{2}}{-3x(\ln x)^{2}}$$

y" - 2xy +2y = x lnx Cauch-fuler: x2y"-2xy +2y20 y = x , y 2 m x , y = m (m-1) x m(m-1) - 2m + 2 2 C m - m - 2m +2 2 m2 -3m +22 m2 -2m-m+220 m(m-2)-1(m-2)20 (mo-1)(m-2)20

par (3 Since  $(3x) - (x^2)(1)$ (x) 2 x lnx x3 lnx clx

, du = Yx dx udu= uv- (vdu  $\frac{d^{2} x \cdot x^{2}}{2} - \left(\frac{x^{2} \cdot 1}{2} \right) \frac{dx}{x}$  $= \frac{x^2 \ln x - x^2}{2} - \frac{x^2}{2} \left( \ln x - \frac{x^2}{2} \right)$ 1111 We dx = \ x lnx dx unx dx x3 lnx - x3 + x3 lnx

