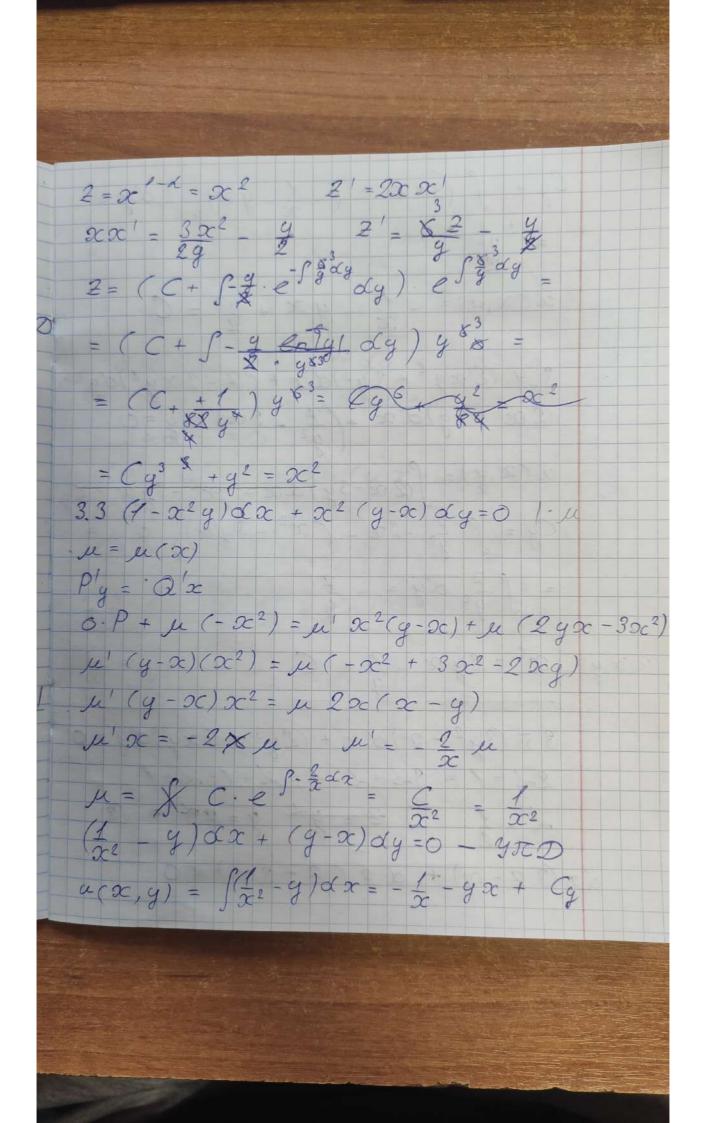
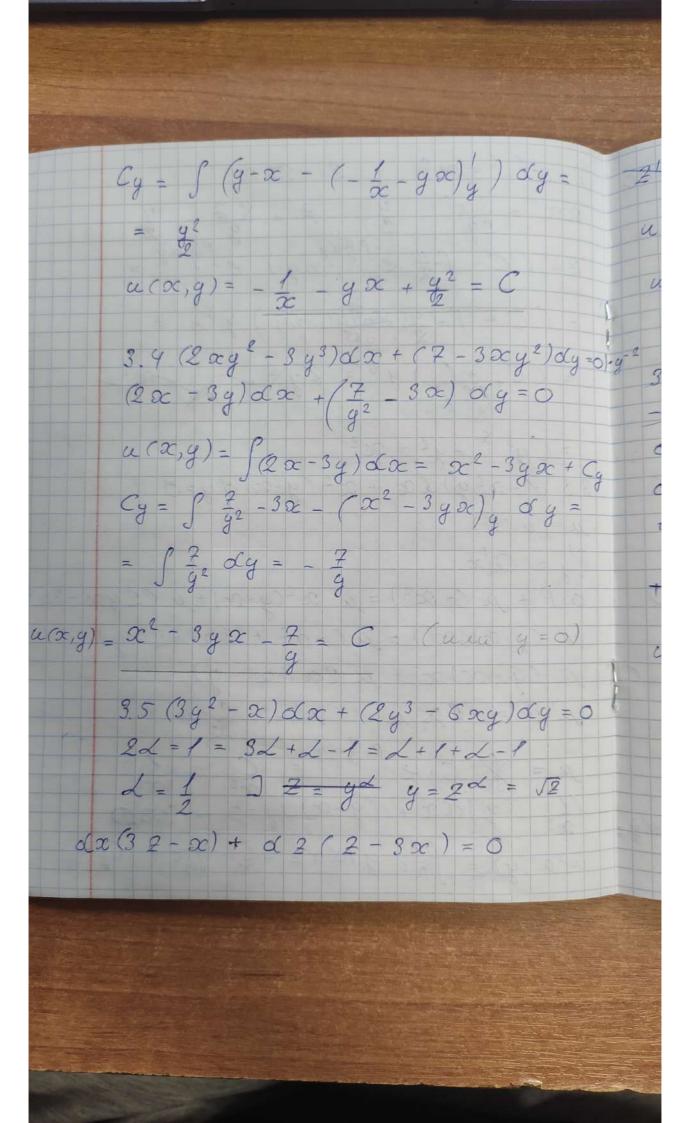
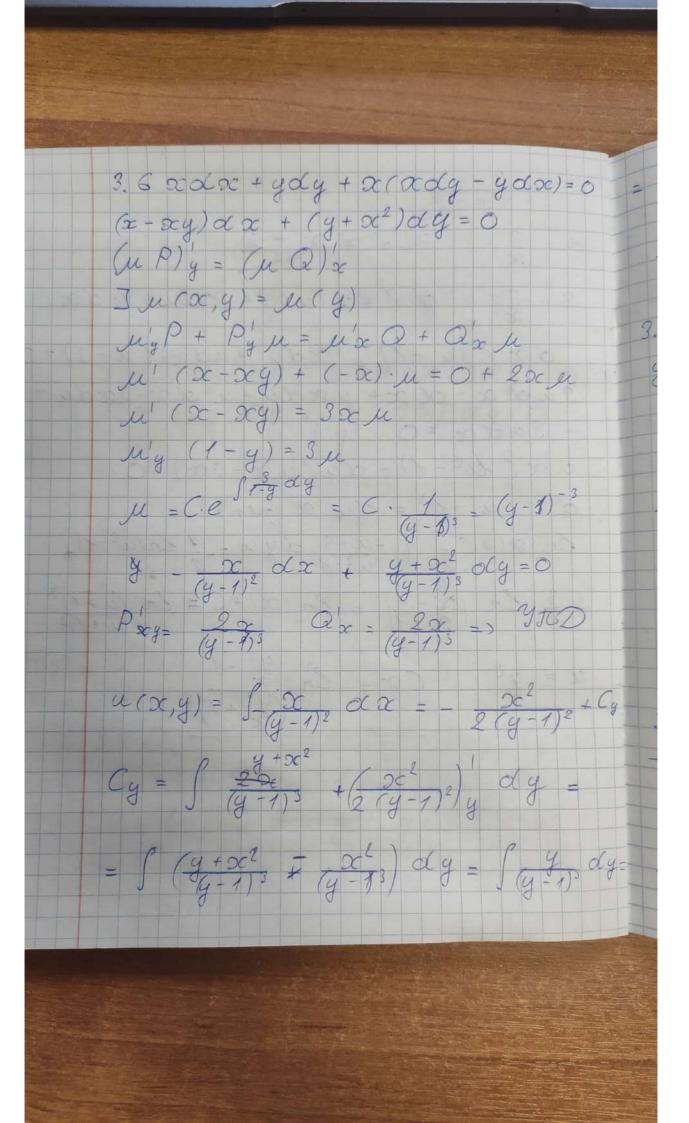
3 oamedpe. Dugogogner. 3. 1 (sing + y sinx + 1) dx + + (x cos y - cos x - ( ) dy = 0 - 350 Plangén u (2, y):  $u(x,y) = \left(\sin y + y \sin x + \frac{1}{x}\right) dx$ = x sing - y cos x + en/x/ + Cy  $C_g = \int (x \cos g - \cos x - f) - (x \sin g - f)$ - gcos x + en(x1) / x x g = f - 1 oly = = - ln 1y1 C=u(x,y) = x siny - y cos x + Cn/x1-ln/g 3.2 2 x d 2c + y 2 - 3 x 2 d y 2 ocy dx + (g2-302) dg=0  $\frac{dy}{dx} = \frac{2xy}{3x^2 - y^2}$  $x' = \frac{dx}{dy} = \frac{3x}{2y} - \frac{y}{2x}$ 2=-1

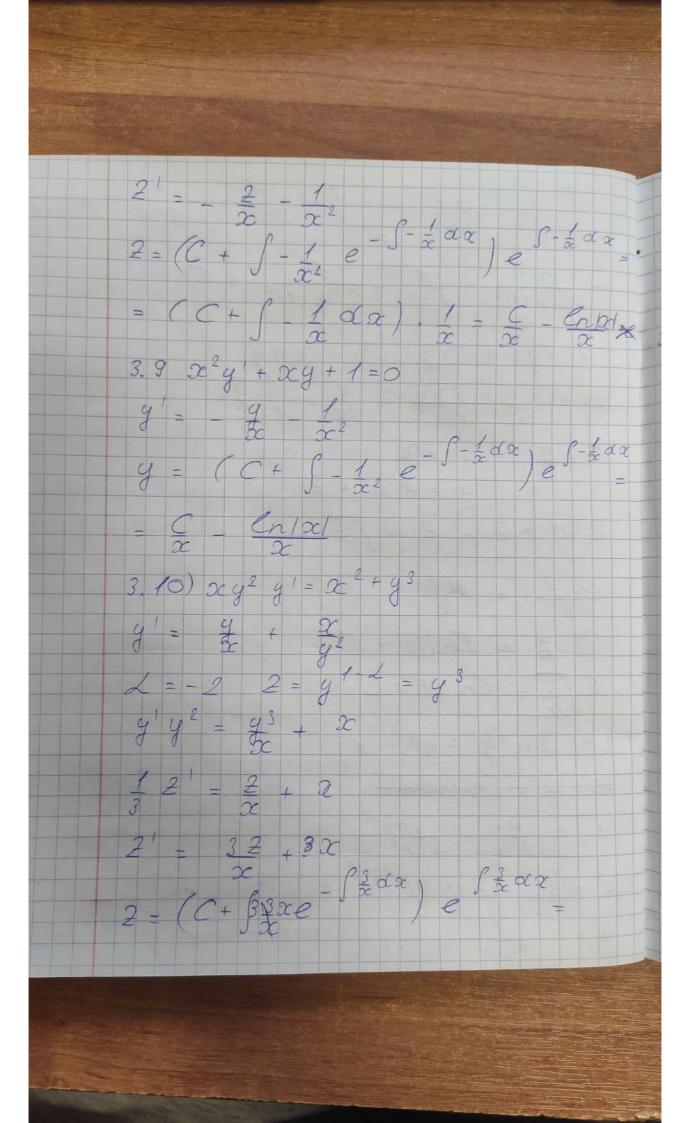




32-0  $u = \frac{2}{x} \qquad u'_{x} = \frac{2'x - 2}{x^2}$  $u=\frac{2}{x}$   $d^2=d(u\circ c)=xdu+udx$ dα (3u-1) + (αdu + udx) (u-3)=0 01.9 qud x - 06 x + uxxxu + u200x-3xxu-- 3 wax = 0 0x(le-1)+ du(ux-3x)=0 dx(u2-1) = du x (-u+3) (n/21+C= \ -u+3 dyu=-1 ln/u2-11+  $+\frac{3}{2} \ln |x-1| - \ln |x| + C = \ln (u+1)^{\frac{x}{2}}$  $u = y^2$   $Cx = \ln \frac{y^2 - 1}{x}$ 



1 = 1 dt = - 1 - 2 = - 1 - 2 (y-1)2  $\frac{3^2}{2(y-1)^2} = \frac{1}{y-1} - \frac{1}{2(y-1)^2} = C$ 37 (y + 5 / xy) doc = ocdy y = y + 1 ory = y + 1 g  $\frac{2}{3} = \frac{y}{3}$   $y = 2 \infty$   $y' = 2 \infty + 2$ 2'x + 2 = 2 + /2 $\frac{d^2}{d^2} = \frac{d^2}{d^2}$ 2/2 = Cn/201+C 2/y = Cn/x1+C 3.8) 2 x2 y' = y3 + xy 20 penierce y = y + y3 2 = 3  $2 = y^{1-d} = y^{-2}$   $2' = -\frac{2}{y^3}$ y' = y-2 + 1 2 g=0 - peu



 $(C + 3. \int \frac{1}{x^2} \alpha \alpha) \alpha^3 = (C - 3.1) \alpha^3 =$ = C x3 -30c2 y3 = Cx3 - 3x2 3.H) (1+y2 sin2x)dx - 2y cos2 ocdy = 0 Py = 2 sin 2 x y Qx = -2 g · 2 cos x · (-se = 2 y sin 2 x 4JCD  $u(x,y) = \int (1+y^2 \sin 2x) dx =$  $= x - y^2 \cos 2 o c + Cy$  $C_g = \int Q - \left(x - y^2 \cos 2x\right) dy =$ = (-2ycos20c + cos2xy)dy= = f(-y - y cos 2 x + y cos 2 x) oly =  $x - y^2 \cos 2x - y^2 = C$ 

3.12) xy dx = (y 3 + x2y + x2) dy (u P)y = (u Q)x My P + Py M = Mx Q + Q'x M  $\mu(\alpha, y) = \mu(y)$ u xy + xu = (-2xy-2x) u u'y+u=-2 uy-2 u 11' = -2 11 - 3 11 du = dy (-2-3) en|u| = -2y - 3en|y|  $u = e^{-2y} \cdot y^{-3} = 1$   $y^{3} = 2y$ y 2 e 2 y ax - ( e 2 y + y 2 e 2 y + y 3 e 2 q) = Ply = 2 (-2y-3 = 2y + (-2) = 29 y-2)= Q/2 => 9700  $u(x,y) = \int \frac{x}{y^2 e^2 y} dx = \frac{x^2}{2y^2 e^2 y} + Cy$ Cy = f- (1 + 2c2 + oc2 + oc2 + oc2 + y3 e2y) - (oc2 2 y x3

