



1		12
X	ndebe <i>nral</i> ovne	Jeaharmhe
	Marie Constitution of the second second second second	the state of the same of the s

Нека је Ереана функција 112 грошенљиве. Једначина

F(x,y(x),y'(x)...y(")(x))=0 Zge je y(x) n Tytua gudepenyuja-

дилна функција назива се ДифЕРЕНЦИЈАЛНА ЈЕДНАЧИНА сихо

Отише решене диверенцијане зедначине зе сваха Функција У=У(к) За X∈1 а.в.) за казу важи в (х, у, Сл. , , , сл.) =0 константе

Хиференцијалне једначине I реда

Једначина каја раздвоја броше*нъи*ве

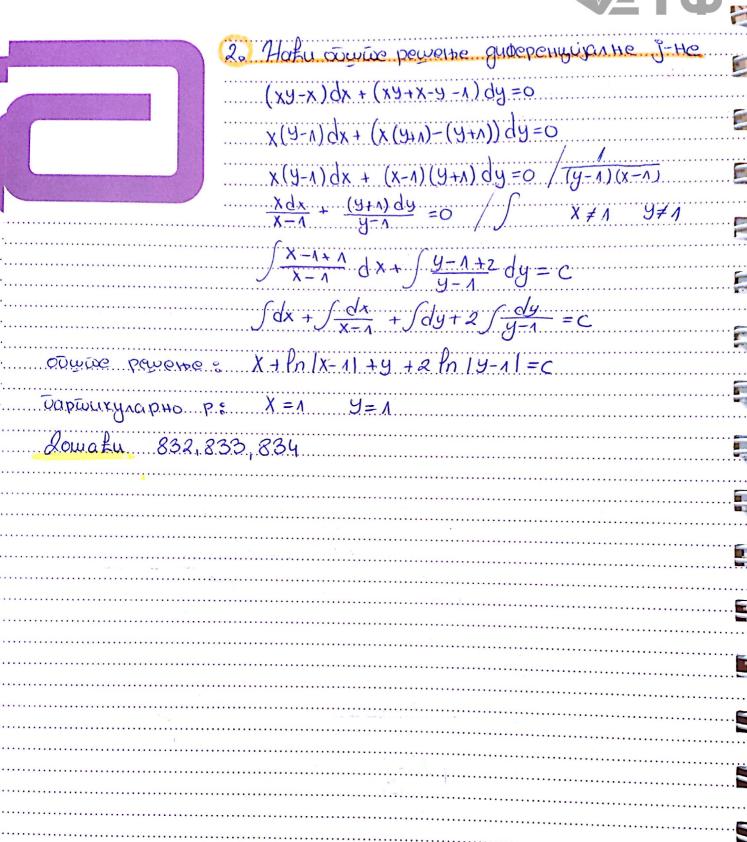
f(x)dx + g(y)dy = 0

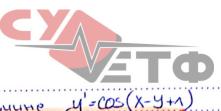
Pn/Pny1-Pn/Pnx1=c

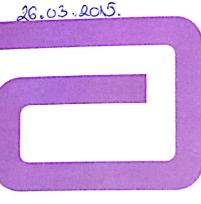
Vapturynapho pewerne: X=1 y=1











Queha:
$$2=\chi-y+\Lambda=>2\chi=\Lambda-y_{x}=>y'=\Lambda-2'$$

 $\Lambda-2'=\cos 2$
 $2'=\Lambda-\cos 2$

$$\frac{d^2}{dx} - dx = 0$$

$$\int \frac{d^2}{2syn^2 + c} - X = C$$

CHEHG
$$2 = \frac{9}{X} = > 9 = 2 \times = > 9^1 = 2^1 \times + 2^1$$

$$2^{1}X + 2 = f(2)$$

 $2^{1}X = f(2) - 7$

$$\frac{dx}{dx} = \frac{dx}{dx}$$



$$Xy' = y + x / \frac{1}{x}$$
, $X \in (0 + \infty)$

$$\mathcal{Z} = \frac{y}{x} \Rightarrow y = 2x \Rightarrow y' = 2'x + 2$$

$$\frac{d^2}{dx} \cdot x = 1$$

$$\frac{d^2}{dx} \cdot x = 1$$

$$\frac{d^2}{dx} \cdot x = 0$$

$$\int dz = \int \frac{x}{dx} = c$$

2. Решити једначини ... а ваши одредити интогралне криве Које бролазе кроз шачке А(2,2) и В(1,-1)

$$(x^2+2xy-y^2)dx + (y^2+2xy-x^2)dy=0 / \frac{1}{x^2}$$

$$(1+2\frac{y}{x}-(\frac{y}{x})^2)dx+((\frac{y}{x})^2+2\frac{y}{x}-1)dy=0$$

$$\frac{dy}{dx} = \frac{d^2}{dx} \times + 2 \quad / dx = > dy = xd^2 + 2dx$$

$$(1+22-22)dx+(2^2+22-1)(xdx+2dx)=0$$

$$\frac{(1+22-2^2+2^3+22^2-2)dx+(2^2+22-1)xdz=0}{(2^3+2^2+2+1)dx+(2^2+22-1)xdz=0/(2^3+2^2+2+1)x}$$

$$(2^{3}+2^{2}+2+1)dx+(2^{2}+22-1)Xdz=0/(2^{3}+2^{2}+2+1)X$$

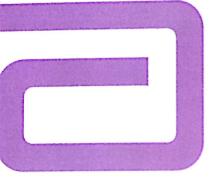
$$\frac{dx}{x} + \frac{(2^{2}+22-1)d2}{(2+1)(2^{2}+1)} = 0$$

$$\int \frac{dx}{x} + \int \frac{(2^{2}+22-1)}{(2+1)(2^{2}+1)} dz$$

$$\frac{2^{2}+22-1}{(2+1)(2^{2}+1)} = \frac{A}{2+1} + \frac{B^{2}+C}{2^{2}+1} + \frac{A}{2^{2}+1} + \frac{B}{2^{2}+1} + \frac{B}{2^{2}$$







$$\frac{\chi(2^2+\Lambda)}{(2+\Lambda)} = C_1 , C_1 = C_1$$

$$\frac{X(2^2+\Lambda)}{2+\Lambda} = C_2$$

$$A(2,2): \frac{2^{2}+2^{2}}{2+2} = C = > C = 2 \qquad B(1,-1): \frac{1^{2}+(-1)^{2}}{1-1} = C \qquad C = \infty$$

$$\frac{x^{2}+y^{2}}{x+y} = 2 \qquad x+y=0$$

$$\frac{dy}{dx} = f\left(\frac{a_{1}x + g_{1}y + c_{1}}{a_{2}x + g_{2}y + c_{2}}\right), \quad a_{2}, g_{2}, c_{2} \in \mathbb{R} \quad a_{1}^{2} + g_{1}^{2} \neq 0 \quad 1 = 1, 2$$

1)
$$01^2 + 02^2 \neq 0$$
 $161^2 + 61^2 \neq 0$ $161^2 + 61^$

$$Q_{\Lambda}(U+Z)+G_{\Lambda}(V+P_{D})+C_{\Lambda}=Q_{\Lambda}U+B_{\Lambda}V$$
 $Q_{\Lambda}Z+B_{\Lambda}P_{D}=-C_{2}$

$$Q_{1}d \cdot G_{1}D = -C_{1} \quad \begin{cases} x \\ x \end{cases}$$

$$Q_{2}d + G_{2}D = -C_{2}$$

Нако је дешершинанта систеша * ровличита од нуле => систеш * иша јединствено решење («1/3)

$$\frac{dV}{dy} = \int \frac{a_1 U + B_1 V}{a_2 U + B_2 V} - xoucocera gub jegn.$$

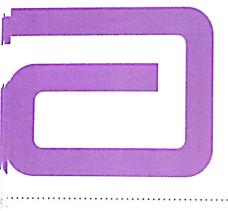


2) haga je
$$a_16_2 - 0_16_1 = 0$$
 $\frac{a_2}{a_1} = \frac{6_1}{6_1} = h$
 $\frac{d_2}{d_1} = \frac{6_1}{6_2} = h$
 $\frac{d_2}{d_2} = \frac{6_1}{6_2} = h$
 $\frac{d_3}{d_2} = \frac{6_1}{6_2} = h$
 $\frac{d_3}{d_2} = \frac{6_1}{6_2} = h$
 $\frac{d_3}{d_2} = \frac{6_1}{6_2} + \frac{6_2}{6_2} + \frac{6_2}{6_2}$





11



$$\int \frac{dy}{y} + \int \frac{(4z+2)dz}{(2+2)(4z+1)} = C$$

$$\frac{4z+2}{(2+2)(4z+1)} + \frac{A}{4z-1}$$

$$(2+2)(4+2-1) + 2+2 + 42-1$$

$$A = \frac{2}{3} B = \frac{4}{3}$$

$$\int_{1}^{2} \frac{1}{1} \frac{1}{3} \frac{1}{2+2} + \frac{1}{3} \int_{1}^{2} \frac{1}{4} \frac{1}{3} \frac{1}{1} = 0$$

$$\ln |u| + \frac{2}{3} \ln |2+2| + \frac{1}{3} \ln |42-1| = C$$

 $\ln |u| \sqrt[3]{(2+2)^2 |42-1|} = C$ $u=X-1$

$$U = \sqrt[3]{(\frac{1}{4}+2)^{2}(4^{2}-1)} = C_{1} \qquad (C_{1}=e)$$

$$U = \sqrt[3]{(\frac{1}{4}+2)^{2}(4^{2}-1)} = C_{1}$$

$$\sqrt[3]{(V-2u)^{2}(4V-u)} = c_{1}$$

$$(V-2u)^{2}(4V-u) = C_{2}$$

outure payette
$$(9+2x-3)^2(49-x-3)=C_2$$

2. Решийи Зедначину

$$(X+y)dx + (3X+3y-4)dy=0$$

 $dy = X-y$

$$\frac{dy}{dx} = \frac{x-y}{-(3x+3y-4)} \qquad 1(-3) - (-3)x = 0$$
We sa: $2 = X+y = > d2 = dx+dy = > dy = d2 - dx$

$$\int dx - \frac{1}{2} \int \frac{(32-4)}{2-2} dz = 0$$



$$X - \frac{1}{2} \left(3 \int \frac{(2-2)d^2}{2-2} + 2 \int \frac{d^2}{2-2} \right) = C$$

$$X - \frac{3}{2} = -h/2 - 2 = 0$$

$$X - \frac{3}{2}(X+y) - \int_{0}^{1} |X+y-2| = C$$

U жарна диференцијална зедначина

$$y' + P(x)y = Q(x)$$

 $Q(x) = P(x)dx + Q(x)e^{\int P(x)dx} dx$

1. Наки байте решене зедн. ... то наки тарти икуларно решене за које зе
$$y(2) = 1$$

$$y' + \frac{9}{x} = 3x$$
, $y(x) = 1$

$$y' + \frac{y}{x} = 3x$$
, $y(x) = 1$
 $op. y(x) = e^{-\int \frac{dx}{x}} (c + \int 3x e^{-\int \frac{dx}{x}} dx) = \frac{1}{1 \times 1} (c + \int 3x |x| dx)$

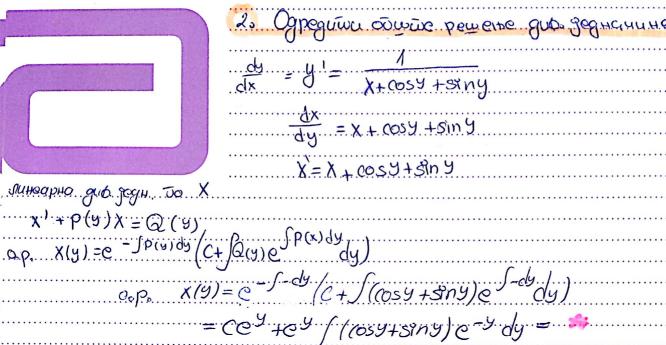
$$= \frac{C}{1 \times 1} + \frac{1}{1 \times 1} \text{ sgn } X^3 = \frac{C}{1 \times 1} + X^2 = \int y(x) = \frac{C}{X} + x^2 / 0.p.$$

$$1 = y(2) = \frac{C}{2} + y = > C = -6$$

таршикуларно решене
$$y(x) = -\frac{6}{x} + x^2$$







*
$$\int \cos e^{-y} dy = ru = \cos y$$
 $dv = e^{-y} dy = -e^{-y} \cos y - \int \sin y e^{-y} dy$

$$\int (\cos y - \sin y) e^{-y} dy = -e^{-y} \cos y$$

$$(C^{9} - e^{9}e^{-9}\cos y = (e^{9} - \cos y = 7) \circ P = (6) = (6)$$

20шари: Нару оно решенье диф. једн. које годовогова услов
$$y/y/y = \sqrt{11} + \sqrt{11} + \sqrt{11}$$



З. Погодно одабраным стеном одродийм болье ретенье

$$2^{1}X + 2 = 2x / \frac{1}{X}$$

$$2^{1} + \frac{2}{x} = 2$$

 $ap. 2(x) = e^{-\int \frac{dx}{x}} \left(c + \int 2e^{-x} dx\right)$

$$= \frac{C}{|x|} + \frac{1}{|x|} 2 \int |x| dx = \frac{C}{|x|} + \frac{x^2}{|x|} 39n \frac{x^2}{2}$$

S)
$$(2x+1)y' + 4e^{-y} + 2 = 0$$
 / e^{y} (2x+1)y'sin y+2x(0sy-2x-2x) (2x+1)e^{y} + 4+2ey-0 cweha: $2 = \cos y = >2 = -\sin y y'$

$$-(x^{2}-1)^{2}+2x^{2}-2x^{2}$$

$$-(x^{2}-1)^{2}+2x^{2}-2x^{2}$$

$$-(x^{2}-1)^{2}+2x^{2}-2x^{2}$$

$$-(x^{2}-1)^{2}+2x^{2}-2x^{2}$$

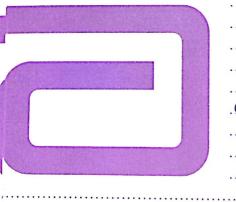
$$(2x+1)2 + 22 = -4/2x+1$$

$$(2x+1)2 + 2z = 4/2x+1$$

$$P(x)$$
 Q(x)







Cheta:
$$2 = y^{1-\alpha} = y = 2 \stackrel{1}{\sqrt{-\alpha}} = y' = \stackrel{1}{\sqrt{-\alpha}} 2 \stackrel{1}{\sqrt{-\alpha}} = 2'$$

$$\frac{1}{\sqrt{-\alpha}} 2 \stackrel{1}{\sqrt{-\alpha}} 2 + P(x) 2 \stackrel{1}{\sqrt{-\alpha}} = Q(x) 2 \stackrel{1}{\sqrt{-\alpha}} / (1-\alpha) 2 \stackrel{1}{\sqrt{-\alpha}} = 2' + (1-\alpha) P(x) 2 = (1-\alpha) Q(x)$$

$$y' + \frac{x}{1-x^2} y = x\sqrt{y} \qquad xe(-1,1)$$

$$x = \frac{1}{2}$$
Cure (a): $z = y^{\frac{1}{2}} = \sqrt{y} = y = z^2 = y^2 = 2z^2$

$$2\frac{2}{1+\frac{x}{1+x^2}} = \frac{1}{2} \times \text{ Muther pile gub-figh}$$
o.p. $\frac{1}{2}(x) = e^{-\int \frac{x}{2} \frac{dx}{1+x^2}} \left(\frac{1}{2} - \frac{1}{2} \int x e^{-\int \frac{x}{2} \frac{dx}{1+x^2}} \right) dx$

$$\int_{\frac{2(1-x^2)}{2(1-x^2)}}^{\frac{x}{2}} = \frac{1}{4} \int_{-\frac{x^2}{2}}^{\frac{-2x}{2}} = \frac{1}{4} \ln |1-x^2| = -\frac{1}{4} \ln (1-x^2)$$

$$2(x) = \sqrt{1-x^2} \left(C + \frac{1}{2} \int \frac{x dx}{\sqrt{1-x^2}} \right) = C \sqrt{1-x^2} - \frac{1}{3} (1-x^2)$$

$$\int \frac{x dx}{\sqrt[4]{1-x^2}} = -\frac{1}{2} \int \frac{-2x dx}{\sqrt[4]{1-x^2}} = -\frac{1}{2} \int \frac{dt}{t^{1/4}} = -\frac{1}{2} \int \frac{4}{3} \sqrt[4]{(1-x^2)^3} = -\frac{2}{3} \sqrt[4]{(1-x^2)^3}$$

0.p.
$$\sqrt{y} = c \sqrt{1-x^2} - \frac{1}{3} (1-x^2)$$



$$y1 = x^3y^2 + xy$$

$$9'-x9 = x^3y^2 = > \sqrt{2} = 2$$

$$-2^{-2}2^{1}-\chi^{2}-1=\chi^{3}2^{-2}/(-2^{2})$$

$$2^{1}+x^{2}=-x^{3}$$
 - NuHèapha gub. Jegh
 $\sqrt[3]{x^{2}}=-\sqrt[3]{x^{2}}=\sqrt[3]{x^{2}}$ $\sqrt[3]{x^{2}}=\sqrt[3]{x^{2}}$

$$\int_{X} \frac{x^{2}}{e^{2}} dx = \int_{X} \frac{1}{e^{2}} \frac{dv = xe^{\frac{x^{2}}{2}} dx}{dv = xe^{\frac{x^{2}}{2}} dx} = \int_{X} \frac{e^{\frac{x^{2}}{2}} dx}{dt = e^{\frac{x^{2}}{2}} dx} = \int_{X} \frac{e^{\frac{x^{2}}{2}} dx}{dt} = \int_{X} \frac{e^{\frac{x^{2}}{2}} dx}{dt}$$

$$=\chi^{2}e^{\frac{\chi^{2}}{2}}-2/\chi e^{\frac{\chi^{2}}{2}}dx = e^{\frac{\chi^{2}}{2}}(\chi^{2}-2)$$

o.p.
$$a(x) = ce^{-\frac{x^2}{2}} - e^{-\frac{x^2}{2}} e^{\frac{x^2}{2}} (x^2 - 2)$$

$$2(X) = Ce^{-\frac{X^2}{2} - X^2 + 2}$$

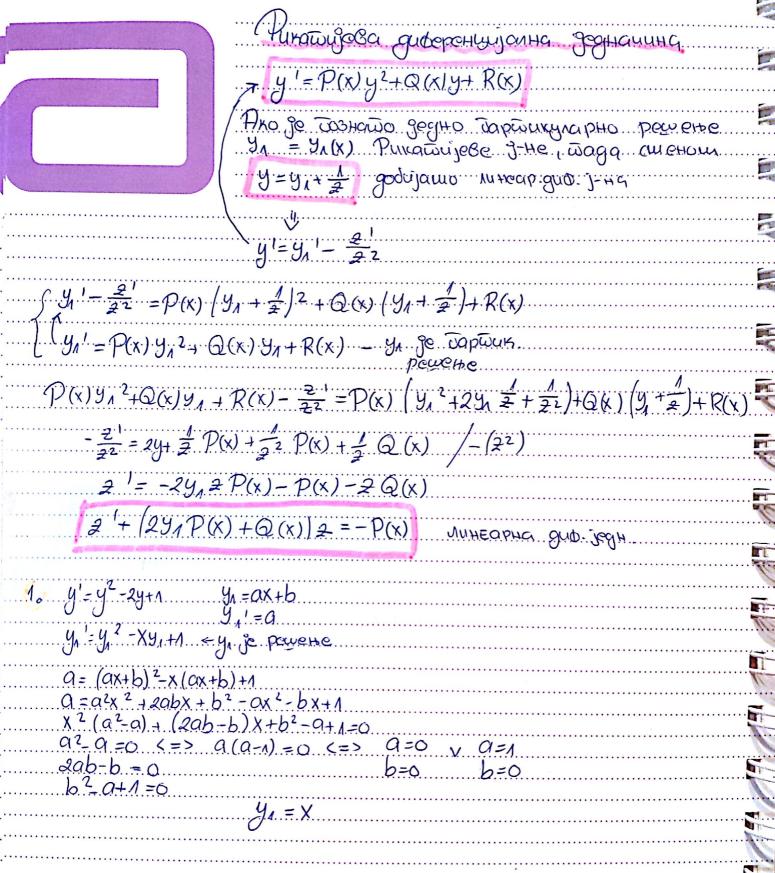
$$0.p / y(x) = (Ce^{-\frac{x^2}{2}} - x^2 + 2)^{-1}$$

$$\chi' = \frac{dx}{dy} = xy - y^3 x^4$$

$$x^{1-9}x = -y^{3}x^{4} = > \sqrt{=0}$$









Cheta:
$$y = y_{1} + \frac{1}{2}$$

$$y' = y_{1} - \frac{2}{2^{2}}$$

$$y_{1} - \frac{2}{2^{2}} = y_{1}^{2} + 2y_{1} + \frac{1}{2} - x(y_{1} + \frac{1}{2}) + 1$$

$$y_{1}^{2} - xy_{1} + 1 - \frac{2}{2^{2}} = y_{1}^{2} + 2y_{1} + \frac{1}{2} - xy_{1} - x + 1$$

$$-\frac{2}{2^{2}} = \frac{2y_{1}}{2} + \frac{1}{2^{2}} - x + \frac{1}{2} - xy_{1} - x + 1$$

$$\frac{2}{2^{2}} - \frac{2y_{1}}{2} + \frac{1}{2^{2}} - x + x + 1$$

$$\frac{2}{2^{2}} + (2y_{1} - x)_{2} = -1$$

$$\Rightarrow 2^{2} + x_{2}^{2} = -1$$

=> 2 + x = -1 = nuheapha jeghayung I pega

$$2(x) = e^{-\frac{x}{2}}\left(c - \int e^{\int x dx} dx\right)$$

$$= e^{-\frac{x^2}{2}}\left(c - \int e^{\int \frac{x}{2}} dx\right) = F(x) \quad \text{geguauu}$$

$$2(x) = ce^{-\frac{x^2}{2}}\left(c - \int e^{\int \frac{x}{2}} dx\right) = F(x) \quad \text{geguauu}$$

OTOMOR payerse $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$ $y = X + (C)^{\frac{x^2}{2}} - C^{\frac{x^2}{2}} = X^{\frac{x^2}{2}}$

20maku: Pewuwu:
$$xy'=y^2-(2x+1)y+x^2+2x$$

$$y=ax+b \in \overline{ap}wukynapho pewebe$$

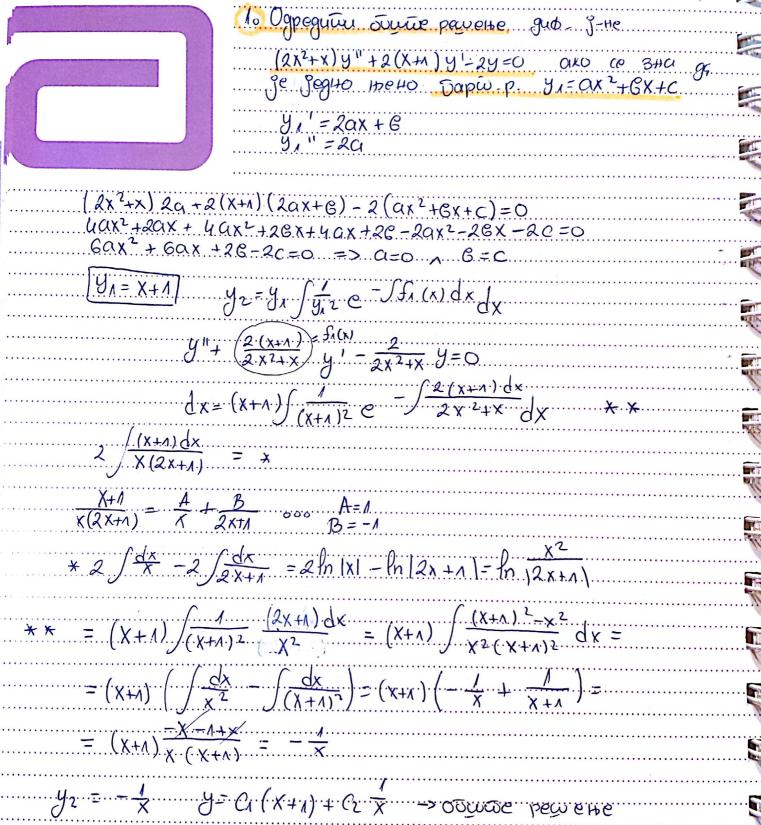
Abbott
A Promise for Life



 $y^{(n)}(x) + f_{\lambda}(x)y^{(n-x)}(x) + g_{\nu \alpha} + f_{n-x}(x)y^{(x)} + f_{n}(x)y(x) = F(x)$ Hexomotera g. j. Ha y (n) (x)+fr(x)y (n-1)(x)+aou + fn-1 (x) y (x) + fr(x) y (x) =0 romotera gud-j-ha leopena Ano cy Улуг и инеарно независна решена хошо-Тене дифер J-не (**) тада је биште решене те j-не У= Сул + Сууг + ««» + Спуп Nuy Curo Ca Φ-ra; Ako je ya jegho Hewpu Cujanho ταρών κυναρηση ρευνοπο «UHEORPHE κοινοτεμε gub j-He gry το τρογα, y" (x) + fa(x) y'(x) + fz(x) y'(x) = O waga je yz=ya yz e- Jfa(x) dx gry το πο πο ταρών κυμο pewere luneapho sabucho og yn Hro pe our periene - Уh хошотене дир ј-не (**) и Ур тар-тичкуларно региен нехошотене диф з-не (*). Шадо ре отите региене нехошотене диф. ј-не У=Уh+Ур Истод варијације понстанти Here cy y_1, y_2, \dots, y_n ruheapuo Hescibucita pewera xomotehe gub. j-He (*) $y_1 + y_2 + y_3 + y_4 + y_5 + y_6 + y_6$ C1 4, + C2 42 + 000 Cn 4n = 0 $C_1 Y_1 + C_2 Y_2 + ood Cn Yn = 0$ $C_1 y_1 \xrightarrow{(n-2)} + C_2 y_2 \xrightarrow{(n-2)} + 0.0 + C_n y_n = 0$ $C_1 y_4 \xrightarrow{(n-4)} + C_2 y_2 \xrightarrow{(n-4)} + 0.0.0 + C_n y_n \xrightarrow{(n-4)} = F(x)$









2ομαθυ: Cgpequiu o.p. gub β+1e
$$xy'' + (2x \ln x + 1) \cdot y' + (x \ln x + 1) \cdot y' = 0$$
αχο βε βεγιο σαρώ. ρεψειπε $y = (\frac{e}{x})^x$

peweine: $y = (1(\frac{e}{x})^x)^x + (2(\frac{e}{x})^x)^x \ln |x|$

2. $x^y y'' + 2x^3 y' + y = 0$

$$y_1 = (\infty \cdot \frac{1}{x})^x + (2x^3 y'' + 2y'' +$$

$$= \int \frac{(x-1)e^x dx}{x^2} = \int \frac{e^x dx}{x} \int \frac{e^x dx}{x^2} = \int \frac{e^x dx}{x} + \frac{e^x}{x} = \int \frac{e^x dx}{x} + \frac{e^x}{x} = \int \frac{e^x dx}{x} = \frac{e^x}{x}$$

$$=>\chi\int_{X^2}^{1/2}\left(e^{\chi+\frac{1}{2}h\cdot |\chi-1|}\right)dx=\chi\int_{X^2}^{1/2}(\chi-1)e^{\chi}dx=\chi \frac{e^{\chi}}{\chi}=e^{\chi}$$





E.

$$C_1 \times C_2 = (-1)$$

 $C_1 \times C_2 = (-1)$
 $C_1 \times C_2 = (-1)$

$$y'' + \frac{x}{1-x}y' - \frac{1}{1-x}y = (1-x)e^{x} = F(x)$$

$$(*)$$
 $C_1'(1-x) = (1-x)e^x = > C_1'(x) = e^x$
 $C_2'(x) = -x$

$$C_{\Lambda}(x) = \int G'(x) dx = \int e^{x} dx = e^{x} + C_{\Lambda}$$

$$C_2(x) = \int G_2(x)dx = \int -xdx = \frac{x^2}{2} + \overline{G}_2$$

$$(X^{2}+1)2A - 2x(2Ax+15) + 2(Ax^{2}+Bx+C) = 0$$

 $2A+2C=0 - x = -A$ $yh=A(x)(X^{2}-1)+B(x)x$

$$\frac{yh=A(x^2-x)+Bx}{y''=\frac{2x}{x^2+x}} \frac{2}{y'} = 1$$

$$\frac{y''=\frac{2x}{x^2+x}}{y'} \frac{2}{y'} + \frac{2}{x^2+x} \frac{y}{y} = 1$$

$$\frac{y''=\frac{2x}{x^2+x}}{y'} \frac{y''+\frac{2x}{x^2+x}}{x^2+x} \frac{y}{y} = 1$$

$$\mathcal{D} = \begin{vmatrix} \chi^2 - 1 & \chi \\ 2 & \chi & 1 \end{vmatrix} = -(\chi^2 + 1)$$

$$\mathcal{D}_{A} = \left| \begin{array}{c} 0 & \chi \\ \chi & \chi \end{array} \right| = -\chi$$



$$D_{2} = \begin{pmatrix} \chi^{2} - 1 & 1 \\ \chi^{2} - 1 & 2 \\ \end{pmatrix} = \chi^{2} - 1 \\$$

$$= \chi^{2} - 1 \\ \end{pmatrix} = \chi^{2} - 1 \\$$

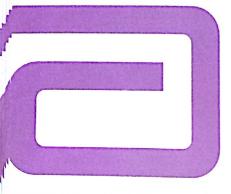
$$= \chi^{2} - 1$$

- $\mathcal{I}=\mathcal{L}+i\mathcal{B}$ брось ношолексан корен i-не вода је $\mathcal{I}=\mathcal{L}-i\mathcal{B}$ је брось кошол корен нарапы. j-не Одговарају£а барто ресо див j-не (*) су $\mathcal{I}_{P_1}=e^{ix}$ гоз \mathcal{B}_X , $\mathcal{I}_{P_2}=e^{ix}$ s $n\mathcal{B}_X$

- $\int = 2+9/5$ xowon kopen pega k>1, wo je u $\int = 2-5/5$ va cy ogwapajyka tapu, peu gud j-He \times $yp_1 = e^{\infty} \cos \beta x$, $yp_2 = xe^{-\alpha x} \cos \beta x$, $yp_k = x^{-\alpha x} e^{\alpha x} \cos \beta x$, $yp_{k+1} = e^{-\alpha x} \sin \beta x$







```
y(n) + a, y (n-1) + 000 + an-1 y' + an y = F(x)
```

- Those
$$F(x) = F_{\lambda}(x) + \dots + F_{n}(x)$$
 waga opumetumo opowx cocayoan the coary Φ -jy $F_{\lambda}(x)$ ($\ell = \pi_{1}n$)

1)
$$d=b=0$$
 $F(x)=P_1(x)$ $Y_{P_1}=Q_1(x)$, $deg Q_1=deg P_1$
 $Y_{P_2}=x^{\mu}Q_1(x)$, $deg Q_1=deg P_1$

2)
$$d \in \mathbb{R}$$
, $b = 0$ $F(x) = e^{\alpha x} P_1(x) - y_{p_1} = e^{\alpha x} Q_1(x)$, $\deg P_1$
 $y_{p_2} = x \cdot e^{\alpha x} Q_1(x)$, $\deg Q_1 = \deg P_1$



$$\int_{1}^{2} -1=0$$
 $\int_{1}^{2} -1$

$$\int_{0}^{3} -5 \int_{0}^{2} +8 \int_{0}^{2} -4 =0$$

$$\int_{A} = 1 \qquad \frac{1}{1} \frac{1 - 5 \cdot 8 - 4}{1 - 4 \cdot 4 \cdot 6}$$

$$(N-1)(N-2)^2=0$$

$$(M+1)(M^2+1)^2=0$$





			4
	2. Ograguium cariae peusene gud j.	ite	
	y. "-39"+49"-29 = ex.)+((05x)		
	F _A (X)	2(%)	
	y"-3y"+4y'-2y=0		
	$\int_{0}^{3} -3 \int_{0}^{2} +4 \int_{0}^{2} -2 = 0$		
	$\int_{1} x ^{2} dx = 1$ $ x ^{2} + x ^{2}$ $ x ^{2} + x ^{2}$		
	12-20+2=0		
	$\int_{123} = \frac{2+\sqrt{u-8}}{2} \int_{1-\sqrt{1}}^{1+\sqrt{1}}$		
	* (
	Th = 10x+ C2ex cosx+Gex sinx		
F1(x1 = ex => d=1 6=0	G		
<i>b</i> =0	J-> J1= X+1/6=1		
J =1 jectue kope	H Kap i-He		
yp, = Axex	y!" -3y " +4y '-2y=ex		
yp1'= A(1+x)ex ?			
yp,"=A(2-1x)ex		······	••••••
yp4"= A (3+X)e<			
·····	······································		
	X +4A (1+x)ex -2A xex=ex		••••••
40×=0×			
A=1			
yp1=xex			
			••••••



$$y_{p_2} = A\cos x + B\sin x$$

$$y_{p_2} = -A\sin x + B\cos x$$

$$y_{p_2} = -A\cos x - B\sin x$$

$$A+3B = 1/3$$

B -3A = 0

$$B = \frac{3}{10}$$
=> $9P_2 = \frac{1}{10} \cos x + \frac{3}{10} \sin x$

(3)
$$y''' - y'' - y' + y = 3x + (24x - 4)e^{x}$$

 $F_{A}(x)$ $F_{A}(x)$

$$(N-1)^{2}(N+1) = 0$$

$$\int_{1/2}^{1/2} = -4$$
 $yh = C_1e^{-x} + C_2e^{x} + C_3he^{x}$



CY/ETG	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
$A = 2$ $y - y + y - y = Ge^{-x} + Ge^{-x} + Ge^{-x} + 3x + 3 + (2x - 4)x$ $y - y = - B = -4$ $y = -$	
$y'' + y' - 2y \pm 3e^{x} + 8e^{x}$ $F_{1} \qquad F_{2}$ $y'' + y' - 2y = 0 \qquad \qquad y'' + y' - 2y = 3e^{x} \qquad F_{1}(x) = 3e^{x}$ $9'' + 9' - 2y = 0 \qquad \qquad y'' + y' - 2y = 3e^{x} \qquad F_{1}(x) = 3e^{x}$ $9'' + 9' - 2y \pm 3e^{x} + 8e^{x} \qquad \qquad Y_{1} = 3e^{x}$ $9'' + 9' - 2y \pm 3e^{x} + 8e^{x} \qquad \qquad Y_{2} = 3e^{x} \qquad \qquad Y_{2} = 3e^{x} \qquad \qquad Y_{3} = 3e^{x} \qquad \qquad Y_{4} = 3e^{x} \qquad \qquad Y_{4$	
$(N-1)(N+2)=0$ $y_{P_1}=A(x+x)e^x$ $y_{P_2}=2$ $y_{P_3}=A(x+x)e^x$ $y_{P_4}=A(x+x)e^x$ $y_{P_4}=A(x+x)e^x$ $y_{P_4}=A(x+x)e^x$	



$$A(x+2)e^{x} + A(x+1)e^{x} - 2Axe^{x} = 3e^{x}$$

 $3Ae^{x} = 3e^{x} = > A = 1$

$$y_{p_2} = 2Ae^{2x}$$
 $y_{p_2} = 2Ae^{2x}$ $y_{p_2} = 4Ae^{2x}$ $y_{p_3} = 4Ae^{2x}$ $y_{p_3} = 4Ae^{2x}$ $y_{p_3} = 4Ae^{2x}$ $y_{p_3} = 4Ae^{2x}$

$$y' = Ge^{x} - 2C_{2}e^{-2x} + (x_{+1})e^{x} + 4e^{2x}$$

 $C_{1} - 2C_{2} + 1 + 4 = 0 = tg - \frac{\pi}{4}$

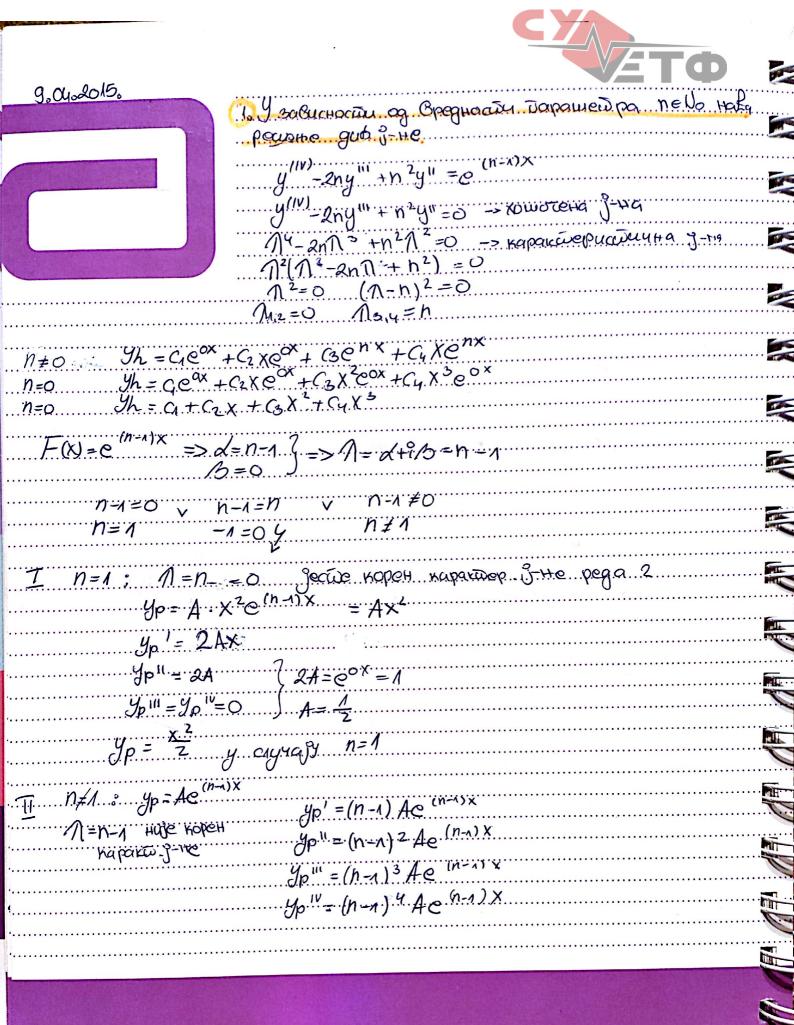
$$C_1 - 2(2 + 1 + 4 = 2) = tg - \frac{4}{5}$$

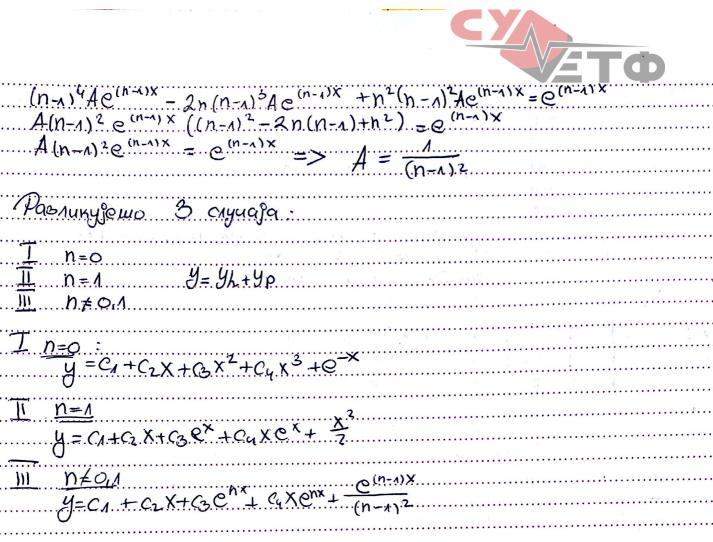
$$\begin{array}{cccc} C_{1}+C_{2}=-2 & (-1) \\ \underline{C_{1}-2C_{2}=-4} & 2+ \\ \underline{-3C_{2}=-2} & 2 \\ C_{2}=-3 & C_{1}=-\frac{8}{3} \end{array}$$

$$C_2 = \frac{2}{3}$$
 $C_1 = -\frac{8}{3}$

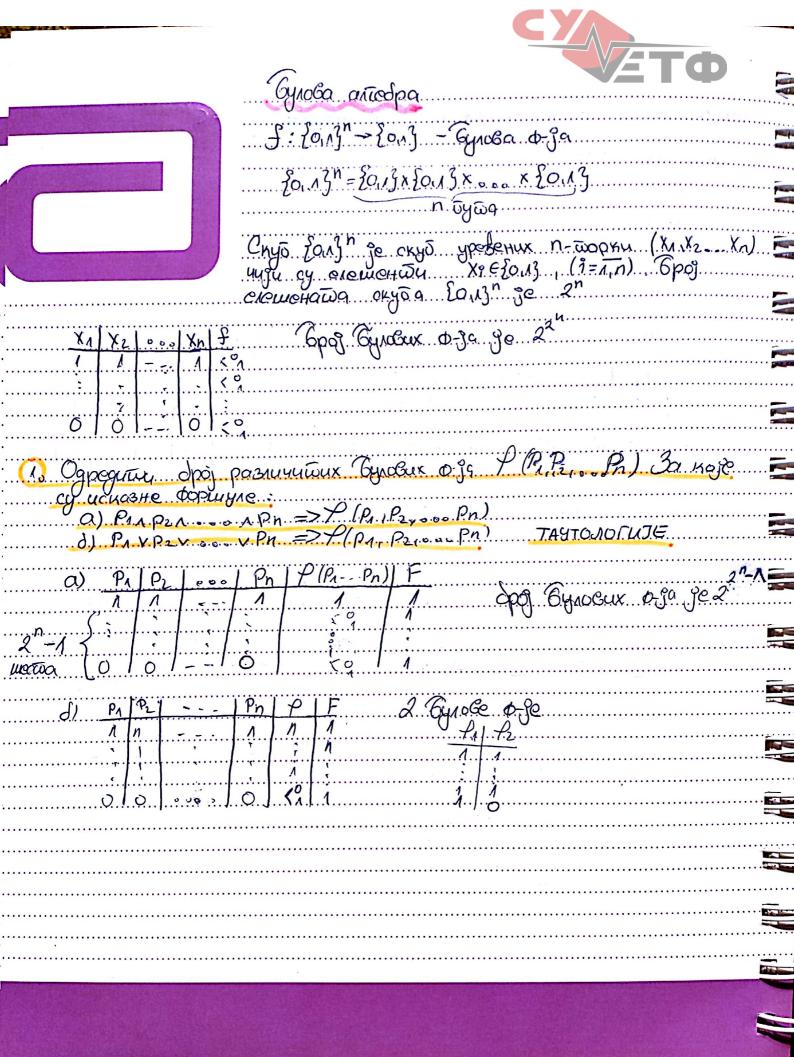
$$y'''_{1}y=0$$
 $y=C_{1}(x)e^{x}+C_{2}(x)e^{-x}$
 $\int_{1}^{2}-1=0$ $C_{1}(x)e^{x}+C_{2}(x)e^{-x}=0$
 $\int_{1}^{2}-1=0$ $C_{1}(x)e^{x}-C_{2}(x)e^{-x}=4\sqrt{x}+\frac{1}{x\sqrt{x}}$

$$S_{A}=1$$
 $S_{A}=-1$ $S_{A}=-1$





 $y=c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_2x+c_3c_4$ $y=c_1+c_1+c_2x+c_2x+c_3$





Gyroby ϕ -gy $f: \{0,1\}^n \rightarrow \{0,1\}$ moreono opegations up odrucy

a) caspigete guaghtaushe tropicate dopine (chap) $f(x_1,x_2,...,x_n) = V(x_1,x_2,...,x_n) \in F$

F= {(dridzie - dr) } { (dridzie - dr) = 13

61 ca6p

				n/
			1/00-1/	1000
(i) O = -	T- 0000 (21100)	112002 26	F1P:9177:0	
(No Canadana)	DOVED HOUSE			THE RESERVE OF THE PARTY OF THE
The Manual	то дедан Булов			

P	2	8	F	6	100 100 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1	4)	1	1	4	COHO 30 F (PIGI)= (PAGAT)V(RGIT)V(PAGAY
1.	d	0	٨	.1	(= 0.5) (= 0.5) (n. Q.F)
1	0	1	O	0	CAHO SA G(PGI)=(PVgVr) A(PVgVr) A(PVgVr)
1	0	0	0	0	
6	1	•	0	0	
0	1	0	0	1	
0	0	4	1	A	
D	0	0	0	1	

(г) Одредийн све булось ФЗС йако да форшула Р гуде йсциологиза и одредийн свяф и СКНФ

P	19	1 7p	(P.9)	L	72	P=5 12	T	<u> </u>		
(1	1	0	S(A,A)	3(1.1)	0	0	4	*	Goog ByroGus	(
2 1	0	0	0	1	1	1	1(4,0)	1f(1,0) = 1	2 dp. *	
2	1		f(0,1)	4	0	1	J(0A)	f(1,0) = 1		
······(···ŏ··	0	1	O	,	1	1	5000	f(0,0) = 1	2'=2	
									=	

p	2	75. (P.2)	18c(pa)	Санф	J.(PA) = (PAQ) v (PAQ) v (PAQ) v (PAQ) 39 Ja (P.S) He TOCTOGY
1	1	1 1	O	CKHO	39 fr (P.S) He TOCTOGY
, 1	O	,	A		
0	1	!		Сдно.	fr(P2) = (P2) v (P2) v (P2)
0	0		A	A	0 1001 = =





30 Ogpeguwu y ωλυκς CAHO Gynoly Oly A (P.g.r)

F:/rv/p,2)=A) Λ (r Λ(P=>2) ΛΑ) waxo ga cha

Φορμικα ομίζε κομωρασμικώνης

The second second	The second second			And in case of the last of the							
1	12	11	Ir	19	I PNQ	F v (PAQ)	L	P=>2	PA (P=>2) NA	V	· -
1	11	1,	0	10	0	0	1	1	*(V(V(V)	$A(\Lambda,\Lambda,\Lambda)$	A(MAA) =0
À	1.7.	0		10	0	1	A(AAO)	1	0	1	A(1,1,0) =0
1	0	1	0	(λ	٨	A(NQI)	0	0	ħ	A(1,0,1) =0
h	0	0		1	1	1	A(Am)	<u>o</u>	0	1	A(1(0(0) =0
(1	1		0	0	0	1	4	A (0,1,1)	A'CM) A (D. I. A) =0
0	ι	0		0	0		Αίολο)		0	h	A(0,1,0)=0
0	0	۸	0	1	0	O	1	(A (0,011)	A(Op.	A (0,0,1)=0
		0		۸	0	Λ	A(000)	1	0	n	A (0,0,0)=0
)			

b	12	Ir	1 A(P,Q,r)	_		
1	11	11	Λ	V	CBHO of A(Par)=(Prant), (Prant), (Prant)	r).
1	1 1	10	0			
٨	0	141	O			
4	0	0	0			
0	111	4	1	/		
0	(0	0			
0	01	1	1	/		
0	01	0	Ω			



Chyō [7. v] je daza GynoBux O-ja (4) 20Kasatou ga Nykawykanueba o-ja (4 Hunu") 4444 dasy taynobus $X = X \cup X = X \downarrow X$ Uzpaziwu umozukayyjy u Wedepogy ozy ("Hu") vomoty $X \wedge y = \overline{X} \wedge y = \overline{X} \wedge \overline{y} = (X \downarrow X) \wedge (Y \downarrow Y) = ((X \downarrow X) \downarrow (Y \downarrow Y)) \downarrow ((X \downarrow X) \downarrow (Y \downarrow Y)$ 5. Изразити ехвивскенцију тошову Wedepobe ("ни") Ф-де $\chi \leq 3 = (\chi = 3) \wedge (\chi = 3) = (\chi \wedge \chi) = (\chi \wedge \chi) = (\chi \wedge \chi) \wedge (\chi \wedge \chi) \wedge (\chi \wedge \chi) = (\chi \wedge \chi) \wedge (\chi \wedge \chi) \wedge (\chi \wedge \chi) = (\chi \wedge \chi) \wedge (\chi \wedge \chi) \wedge (\chi \wedge \chi) = (\chi \wedge \chi) \wedge (\chi \wedge \chi) \wedge (\chi \wedge \chi) \wedge (\chi \wedge \chi) = (\chi \wedge \chi) \wedge (\chi \wedge \chi$ $= (\chi + \overline{y}) \wedge (y + \overline{\chi}) = (\chi + (y + y)) \wedge (y + (\chi + \chi)) = [(\chi + (y + y)) + (y + (\chi + \chi))] + (y + (\chi + \chi))] + (y + (\chi + \chi))$ $\begin{array}{ll}
X = \overline{X \wedge X} = \chi \wedge X \\
X \wedge y = \overline{X + y} = (\chi \wedge y) \wedge (\chi \wedge \chi)
\end{array}$ $\left[(\chi \wedge (y \wedge y)) \wedge (y \wedge (\chi \wedge \chi)) \right]$ Joursey, Hatu coe Gyrose of 39 hose carry Dopmyng

F: (r=>g vp=> P (P.G.r)) => (P/P.G.r) 1(P=>g) 1 r) TAYTONOTUJA 2. Ilpograva Grave dyrob uspaz (P=>2) vg touroky "Hur O-je 3. Konuxo uma pagnunia a Gynosux 0-ja warem ga canty $f: \{\alpha, \kappa_1^n = \{\alpha, \kappa_2^n = \alpha\} = \alpha$

