БИБЛИОТЕНА МАТЕМАТИЧКОГ ИНСТИТУТА Бр. 4046 3266

Jeon etipujare apunerte quepepertujartur jegharuta

apop. Youbepouncina.

yloog.

Cloosea nushiya unu tolopiuu-Ha duno y pabhu duno y apocaropy дефинисана је извесном особином. Obe ce uspaskaloujy parystaku womony penanjuja usmehy gyzkunta u ginoba. y an anuturreum uspasuma reaso sa gypkust ware u sa jinobe mory opu-Typucantu unu Heavopegito ievopgunta-The mararea une wolvege aplot, gpy-Tot, ... perpa . Y on yrajy reary y tranebum uspasuma mans yrase y airrebe penanjuje chuigpung camo revindu-Hayuje revopojuhatia, the penayuje apegatiabologies odustie jegharute 100-Je unu Heav Cheg 140 gazin jeg Harmy republe nustuje unu tubpinuste, unu ce go auxobe jegharmhe gonasu jegHam Husom enumunayaja. Megyaum Ray y uspasuma gyzkute u ytroba churypung usbogu, monthe penanguje apencia al majy guchepenty y anite jeg Horuste i are otherwise bega terruxi je Hajbumu peg usboga unto y aome Itymum uspasuma oputypung.

COPENION OF THE WASH reginerga cy pacitiojanoa ma reose noes unu morrise og jegite manite manse. Tommo pacificame uma sa uspors

125+13+23

apenancia abulonin da je ma manta. warra y resupo motionam populsi y warranti ce sa géopustusque regine uma odurita jegharma

S=/25+135+155

Marso uctro u repyt ce mostre geopustucount tean mutuja sa tenjy je txetye con anito, via hemo umani ovien odurity jegharuty

1 = 1 xs + yz

Megyanam repyr ce morke geopuracount

u Ha viaj Haruh ano ce uspasu ga je apryapérhus republiste ma roje me-Tobe taisse caranis. Usposubin maj charea parynera goduja ce jegnaruna

$$\frac{\frac{\mathrm{d}^2 y}{\mathrm{d}^2 y}}{\left[1 + \left(\frac{\mathrm{d} y}{\mathrm{d} x}\right)^2\right]^{3/2}} = \alpha$$

$$\cos \frac{d^2y}{dx^2} - \left[1 + \left(\frac{dy}{dx}\right)^2\right]^3 = 0$$

resja apeganalous gurpepertyujanity jeghazuny repyta. Us we ce tiere untie-Transujom gonasu go jeg Harme repyta y obusitom obrusey.

Tours ce opro benuxu opyjocooluta roje cryske 1200 gedputujuje 12pubua nustuja u tolopuusta uspaskabajy Sam coarson such epentanjanhum jeg-Haruna, to ce us tivão mospe bugeum revnury ynory wrpajy gudpepertyu janite jeghazuste upu ogpetjubanog repu Bux nuriya unu tubpuruna revje he uma

un ga sugobone rantbe y naupeg game yonobe. Mu hemo upehu nerronurso sagamarea wartbe boane.

<u>Jagann Roju ce clooge ma</u> gucpepentinjanne jegnarune ap voi pega

Hajobushuja isnaca marebus sagramarea jecy sargayu y isojuma ce mpagrame ocobuste y zuju astanumureu
uspas ynase isoopgustome u enemertitu
gupise. Sita ce ga ce ma isanab eneme
itam gupise uspaskaba tomohy isoopgustama u tipbot usboga; tipema tiome tiansbu ce sargayu cooge ita jegity
penayyiji

 $F(x, y, \frac{dy}{dx}) = 0$

pertyujanita jegharuta apbot pega bertyujanita jegharuta apbot pega bertom bu ce ustuetpazujom gobuno y $y = \mathcal{F}(x, \mathcal{C})$

LUHUJA he Sumil admiaysto ogpebesta considera and ce aopeg obnussa chytherywie F sunta suga 3 Hona u opegstoum sentumentue aompeditu cy jour usbechtu cyanementumpitu yone us seoje bu reoju je apeyusupajy. Tuu cy yone u m. g. bu Hajremhe obasebu:

a) Horie ce aposkumu ga repuba nu-Huja aponasu repos gamy marrey (a,b) Maga ce goduja yenobita jegharuta

b= F(a, C)

120 Ogpehyje bpeghoù 1204 mantie C 14 ma jegan y hat peg gamu 14 à ub gup 120 Ono ce mantenta a moi 14 à uba 134 un jegharu ca à us jegharute

y= F(x, e)

 $\frac{dy}{dx} = \frac{df}{olx} = \varphi(x, y, C)$

UMUMU

y= F(a,e) 1= q(a,y,e)

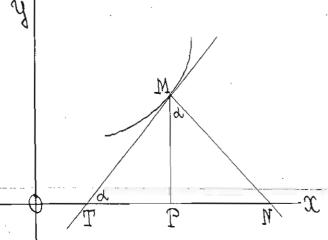
Enumuhayajom ya us aux gbejy jegharuha rusta goduna du ce usbecsta jegharuha $\Psi(a,C)=0$

us resje ce moske usparyhanin restantinc.

W

1º 3agamar.

Destruction colups supposed Description of the present of the pres



ou che manse manita u pabita is. Us chuse

19 = tgd = da Origina your

Us obe jegnarunt je 12 logy = x+C

unu

One ce imposper ya repuba isponasu repos inasu x=0 y=3 godunu bu yandhy jegharusty 3=0

u apema aome aparkerta repuba bunadi A=36_±

2° Jagaman.

The paske ce republic must uje 30 resp je gypkusta PN cinarita u pavita ie.

Us course je

The tyd= dy

ogazere ce gosuja yarobita jeghazuita

y dy = R

sj sjasi av

3 = 18x+C

cy aapadone.

3° Jagaman.

Шраже се периве пиније за levje je gyzkiuta MM ūpoūopyuotianita aucylicu marire M.

Us course je

 $\frac{MN}{dt} = MDd = \frac{1}{M + (\frac{dM}{dt})^2}$

ogaine

WW = A/1+ (an) = 15x

my

 $y^{2}(1+y'^{2})-12^{2}x^{2}=0$ Upema vivne viparkette repube bla jeghazuna je sumoterta ao x u y u apenia turme ce morke ustruet panuaru.

<u> Managance º 4</u>

il paske ce repube rushuje sa ноје је одужина ММ пропорционална ogetavjanez to a to retalea. s wimost

MN=4/1+(01/2)

то се добија условна једначина

 $4/\sqrt{1+\left(\frac{4\pi}{4\pi}\right)_5}=15/\frac{x_5+A_5}{x_5+A_5}$

unu

y2(1+y'2)-182(x2+y2)=0

Jegharuna je odet admorenta ad x mila 1) Hasuba ce mareu apenia vione ce moste intitietpanimibles nutuja

5° Jagathar usoronarhux <u> whojerwopula.</u>

Herea je gama jegita renacia republica nuniga;

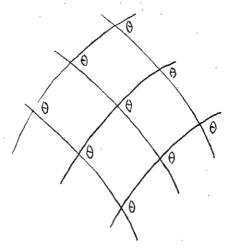
 $F(\alpha, y, \lambda) = 0$

zuja jeghazuta angpoku jegan apousboñan dapametaap à taans gà ce bapaja yujun tuta tapametapa godujajų che motyte repube une renace. Usotoffantum upajeremopujama

knace kpubux nutu

 $\Phi(\alpha, \gamma, \mu) = 0$

ga Isana ripuba 2). cere chancy sepuly 1) Tog jegitum carantum



to B= ay

jytha renaça republica 2).

Yozimo jegity apousbowity war what us jegharuite is guapepentigujanemen, vey M y positu u iterea repos my aporasu mouro on reaponent epiume jegity republy me jegita républi e, unio apunaga réviacu 1) l'errace. Duchépertiquian even jegitaisune 1) go jegita repuba C2 muio apunaiza renacu 2 6mja ce

The he ce upube cehu tog gating y non o and um a ogarene je gupire y tily tianou cercy troy thum yim Osharumo ca & u/

yrnobe revje Tparze Tomin je tgo tostatio u cinanito, ino ano ta The gupre ca x- (03Harumo ca 12, tha ta kao u uspase 4) u 5) wouthom. Transa menuno y usposy 3), goduhemo jegnaruny

he Sum

Mehyann tops jeune Henvinann usbog de manne ogiobapa rénain 2) vano ga y jegharmtu 3) upeda washumi

$$R\frac{\partial F}{\partial y} - \frac{\partial F}{\partial x}\frac{dy}{dx} - \frac{\partial F}{\partial y}\frac{dy}{dx} + \frac{\partial F}{\partial x} = 0$$

Пошто је Т познаша и дата срункција,

$$\frac{\partial F}{\partial x} + \frac{\partial F}{\partial y} \frac{\partial y}{\partial x} = 0$$

Capyre imposte tod je usbog dy anu uspa

$$tyd = \frac{\partial F}{\partial x}$$

 $R = \frac{\frac{\partial y}{\partial x} - \frac{\partial F}{\partial x}}{1 + \frac{\partial F}{\partial x}} \frac{\partial F}{\partial y} \cdot \frac{\partial F}{\partial x}$

tus he voa to chegwa jeghazusta Sutu usbecsta gupepentyujanta jeghazusta

 $\Upsilon(\alpha, y, \frac{dy}{d\alpha}) = 0$

mus fe zadamans benier.

In me fe zadamans benier.

H tip goutia je renaca trapado na ruje je timeme y tao retirvy u revje gogupyjy y-owbury; tiparku ce vra renaca republik nurruja revje he che tie trapadone cehu taog ytnom og 60°.

Outura jegitarusta ienace was

stusj enobequer and

 $\lambda_{S_d} - \gamma \propto = 0$

Obge hemo umaure

tg0 = tg 600 = 13

$$\frac{1}{3}d = -\frac{2F}{2x} \left| \frac{2F}{2y} \right| = -\frac{1}{2y} = \frac{\lambda}{2y}$$

$$\frac{1}{3}p = \frac{dy}{dx}$$

u tipema tione guchepentujujunnta jegita-

$$V_3 = \frac{\frac{dy}{dx} - \frac{\lambda}{2y}}{1 + \frac{\lambda}{2y} \frac{dy}{dx}}$$

 $2y\sqrt{3} + \lambda\sqrt{3} \frac{dy}{dx} - 2y \frac{dy}{dx} + \lambda = 0$

Cº Bagamar optiotoHarHux <u>apajerento</u>

Obaj ce sagamant pemaba tha pa u où unin Harus trava upomnu songamant, unastura camo una ce penanjuja s) uma comethum upomnjom penanjujom
1+tydtyp=0
jermopuj

Roja usparkaba us oja cy repube nustuje upegcurabneste jeightarustama 1) u 2) jeighte sta grytum yūpabste. Y oboj jeightarustu upeda cmestumu typ= dy da

 $\frac{1}{100} \frac{\partial E}{\partial x} = \frac{\partial F}{\partial x} \left| \frac{\partial F}{\partial y} \right|$

πα се σοδιήα ιευν γμέρερεντημήση ιτα jeghazurta πραγείτα πραγειεποριήα $\frac{\partial F}{\partial y} - \frac{\partial F}{\partial \alpha} \frac{dy}{d\alpha} = 0$

Mitatiparyujum obe jegthazurte gobuno bu ce y 1200 opystrujuja og x u C u tiaj ustatiet pan apegatialonoshe 12000y nustuja 120je he butu optatotototite tapajere taopuje gratie 12000e. Ynoty appamentos nustuca u oteta utpa ustatiet paryusta 12011-cuiasta C.

Примери:

1. Ogpegum optiotoranie tipa jermopuje sa manotipehamby renacy aapadona. Praca 1) ortga je oteti $y^2 - \lambda x=0$ ii tipema tiome

 $\frac{\partial \mathbf{f}}{\partial x} = -\lambda$ $\frac{\partial \mathbf{f}}{\partial y} = 2y$

Tranco gra je guchepertyujunita jegnoruna Trankenus Trajerettopuja

 $2y + \lambda \frac{dy}{dx} = 0$

2. Ogpeguir opinotohanse inpajer mopuje sa gamy renacy rentportantus enutica (ti.j. enutica 120je umajų utilė oku ofte). Oanião jegharusta restoporanxus enuña 1800 chedimine veska à kontgustamison vorenity jeune

 $\frac{1}{x_5} + \frac{\alpha - y}{A_5} = 7$

nurinta Roja apegatabona zajeghurra mararra u nyiva. excyestapunjuaiem enuace.

Payehu read a mano rac Harrasu ce Ha jeghanisty

5= J(x,y) ga cy opuiotoHarte upajereuopuje man be knace enutica suitepoure 120je una tye je 7 ganta chymenjuja. Duchepennjujaју зоједните жиже са епиасата. пењет добијато

7º 3agaman.

Thorse ce repube municie revise umajy try ocodusty ga avatroju usbecita Tope je i tapametrap a a guepherra 120 gana penanjuja usmetry 1200 pguratia

Bayanju barrbe bpuire chage

 $ds = \frac{\partial f}{\partial x} dx + \frac{\partial f}{\partial y} dy$

unu

$$\frac{\partial b}{\partial x} = \frac{\partial F}{\partial x} + \frac{\partial F}{\partial y} y'$$

Magpupanen u bogehu parysta o tuome ga je

dognia ce l'endréasement $(1+\lambda_{15}) = \left(\frac{\partial x}{\partial x} + \frac{\partial \lambda}{\partial x}\lambda_{1}\right)_{5}$

The jegherente thije thinte spyth go with a usbecita penanjuja usmely x, y, y'. Otta usmely x, y, y'. Otta sperial object governe tipergutable jegity guchepentum bugito. janity jegherenty tipoot pega rujom ce ustatetpanjujom godujajy tiposkerte sepulo nutuje.

тук пропорушенапан стации. Тада з

5 = xR

ogassne

ob=Rdx

uni

92= 150 gx2

unu

 $dx_5 + dy_5 = k_5 dx_5$

ans ornarumo

N155-1=1

σοιρεσημονικου βαίρε αργενινου αρέρουσος αρέγερος συμερούς συμερο

ogarène unitetpanjujum y= lx+c us reta ce bugu ga cy tiparketh nustuje apabe. Y ución max ce bugu ga ragatiar uma conucra camo arco je 1271 mas je y octiarom u camo to cebu orebugito. Rbagpupansen u bogehu parysta o mome graje

db = 1/1+y/2

 $1+\lambda_{5} = \left[\frac{9\alpha}{92} + \frac{9\lambda}{92}\lambda_{1} + \frac{9\lambda^{2}}{92}\lambda_{1}^{2}\right]_{5}$

Dagayu Roju ce chage 140 goduja ce jegharusta gupepertyrigante jeghoreute apyior pega.

1º Mui.

Aparen ce repuba nuninja 30 12024 he toctiojatil jegita gama penanjuja usmeby reopopunatia tiazasza, enemertanta gupise unyssa repulpajy, ortga nopajy Sutin ganta goa be nuture.

ce tha jegitharemy

5= F(x,y,y')

Ruchepertyujanement godujamo $ds = \frac{\partial x}{\partial t} dx + \frac{\partial y}{\partial t} dy + \frac{\partial y}{\partial t} dy'$

unu guodomo ca dx $\frac{ds}{dx} = \frac{\partial f}{\partial x} + \frac{\partial f}{\partial y} y' + \frac{\partial f}{\partial y'} y''$

wino the enguisation jegity guch exercisucarity jegharuny apyror pega. Whiterpayujon de jegitarute umanu du oamay jeghoruny apamenux repubux nu Ituja u y oboj he opuzypucaniu reas rapamentipu abe ustretparquoste Rosaman. vie. Crow je avarpedito ga ce obe aperjusu. we ettita yoroba izoju moty Jutu pasite Bagaiju obarrele épatie coor patie. Mario 4 tip. morre ce tiparxitation ga 12puba tiponasu 12pos gbe gatie tiarthe man guye goe yorubite jegharute when the abouton 15603 tedith down morrey u ga y oboj gupra uma Haporutin game trabay uru ga y tearbania soje ogtobajogig glenia gatium atiquicama gupka uma y Haripey.

game apabye umg.

Jegan og Hajbaskitujux zougawarea warebe beaute du du vitaj y revine ce aparke repulse mutuje resignis as ano domino je apema yenoby saganira ju jeg Ha grama penanjuja usmeby nyrea à gupire anso ce ca d ostaru year resputation je gupiea Tpagu ca x-ocobusion, zongaya ce transle bours your mong checter the an Tophie goe jegherente avanajy jegity jegharuty obruta

si arimos

tad= y! un he oba jegharusta duna odninsa 5= q(y')

Ha to stratus ga us meby rescurtyca i cu ! It up upasku ce repuba ruju Hyca ythad i nysea abutivje penanjus je nyse apotivpizuvitanam ytny d unu y

md= ay

oganene je

ola= ols cus a dy= ds sind

ds = F(a) da

dx= F(a) cosa da dy=F'(a) ma dd

Us rouse umano ustueiparjujom x= C, + (F(d) cosada y= C2 + (F(d) madda

u la litalga lipema liveme log Toprou Rag voe ustile parjuje oggy usopuerte live true salgazu ce lie opcine mory umahemo x u y usparkerte reas opystrujupennan navene ma obaj marun: Tomas je aapamenipa d u ais he duan aapa је из примена диференцијалних рагиметарске једнагине пражених кривих.

oūmie nusteapsta cpystrelyinja yūna d. Maga je

5= ya+m

ogarre

db=1 dd

u opena mome

 $dx = ds cus d = \lambda cus d old$

dy=ds md= 1md dd

Othyga

 $x = 0, + \lambda m d$

 $y = C_2 - \lambda \cos d$

a ogatine je

 $(x-6^{1})_{5}+(A-6^{5})_{5}=\gamma_{5}$

путречния х.

2º Mui

Thospe ce repube nutuje reje umajų užy ocobuty ga sa chary marry aduliju penayuja usmety koopgutama ularrie, enemertina gupre u usryaperturia republite.

Marebu ce saganju chaze ma

jeghazusty

g= F(x,y,y')

o avijua je

me umamo tocha ca gudeepettyujanitum jegharutum gpytot pega sujum ce uttmetpaujujum itanase mparkerte iepube.

Hajbaskituju zagouňan obanbe opune ou ou obaj: Itahu izpube nustuje iegie unajy my ocobusty ga momoju jeg

Ha gama penanjuja usmehy wnyaperitu 1210 12pubunte u enementara gupise warebu ce saganzu choge 110 jegnarunte obnuma g = F(a)

Toje je d zivos gripte ca x-owbustom tozhanie je us merpuje tronzuperstussa tepubuste zia incinoju penassuja

5= ds

ogazene je

ds=9dd= F(d) dd

Samethon y jeightarustama

dx=dsusa

dy=ds md

gobuja ce

dx=F(d) wsd dd

dy= F(a) ma da

ogarre intuetpanjujon

x= 0, +) F(a) cosd dd

y= C2 + J F(a) ma dd

и то су параметарске зеднагине про

H. up uparku ce marson ispula

nutuja ga je sa courry warrzy wet wonyapersturz szpubute apoaopywottanant
curtycy yina d liaga je f(d) = 1 mid

be Suhe

 $x=C_1+\lambda$ sima condida $y=C_2+\lambda$ sim²d da

uru

 $x = C_1 + \frac{\lambda}{2} \int da - \frac{\lambda}{2} \int da - \frac{\lambda}{2} \int da$

unu Hajsarg

$$x = C_1 - \frac{\lambda}{4} \cos 2d$$

$$y = C_2 + \frac{\lambda \alpha}{2} - \frac{\lambda}{4} \sin 2d$$

Dagayu roju ce clorge Ha ancheventinavité jeditarnité upeher pega.

ma grupire, tionytipernturea republishe u gujoin goodujajy ce republe nustuje revije Hormy

 $f_1(x'A'A', 6') = 0$ Меним диференцијалењем добија се 哥dx + 哥dy + 哥dy + 哥dg + 哥ds=0 Mehyurum je ob= Vax + dy = dx /1+y'2

dg= 4" = (1+42) 1/2 244" - (1+42)3/2 4" unu

dg= 34 (1+4/2)1/2 4/2 - (1+4/2)3/2 4/11

Bamerion do u de y Toproj jegnarunu oba Marèbe du boure dus saga- aventaje jegita jegitarusta isoja canzporu: ware: ogpequent republe nurtuje sa revje x,y,y',y'' i y'''. Warebu ce sagary u garêne ascuroju jegita y Hauperz gama penanjuju borge Ha jeghy guchepentnjujanny jeghausmeby resopquirontes tionares, enemeros surry tipehet pega i werron ustitetpanyrea. Warebu ce sagaryu chaze Ha jerz ce diparke. Y untaretpany he oputypucant upu whitetpay with 1204 cutasture 120je, ans je us as apedin, upeda apenjusupame to mony tope gotta to retilta you.

> Itajbaskituju zaganianz obanzbe spare jeane obaj: ogpegum ispube nuthije so teoje ao caroju jegita gama pena. luja usmeby abrijaperiturea republiste u

ryra. Warbu ce sayanju choge na jeg naruny

9= F(b)

u totat agajy tog topson tina. Metymum othe ce topocatuje pemabajy vbaszo: us penaguje

 $g = \frac{\text{ols}}{\text{dd}}$

opolizia ce

 $da = \frac{ds}{p} = \frac{ds}{f(s)}$

ogistère je

 $d = C_1 + \int \frac{ds}{f(s)}$

ūρειταν υπαλυμα γα je oba ustri et pauzuja uslopijesta, an hemo umatiu ga je d= q(s,C,)

Type he of Swar abstration opythersize. Usparythajino us the penantuje s teas opytherigity by a u thereas je H. Tip. $S=\Psi(a,C_i)$

Ogatine je

ds=41(d, e,) da

u vitga samerion y obpacióna dx = ds cus d

oly=ols ma

goduja ce

dα= ψ'(α,C1) cosa da dy= ψ'(α,C1) ma da

ogarene je unaerpayujom

 $x = C_2 + \int \psi'(\alpha, C_1) \cos \alpha d\alpha$

y= C3 + ∫ Ψ'(d,C1) sind dd

Rag obe untactpayaje bygy usbpuert umahemo ūapametaapine jegharust tipastestua repubua rustaja y revjuma he oputypucatu tipu ustaetpayavste restatatie.

Hap Hahu republe nurrye sa revje je tivrytiperrrur republish tipotiupyushanar nyry republe nurrye paryrratiom og jegre tiarre. Obge je

8=125

u apena wome

 $da = \frac{ds}{g} = \frac{1}{R} \frac{ds}{s}$

imu

a= C1 + 1/12 lugs

www

J= @ exil

Ogabye je

ds= OR Cradd

aa varyya

dx= @ Releg cosa dd dy = OR erd min d old

a ogaine

x= 02+ 018 / 6184 cosa da

y= e3+ e12 Seled sind dd

Ose ce de intractpayage moig insopulation и прета поте задатиля се тоже решити. JegHaruste

utpajy bpno baskity ynoty y attanumur Ity Teometipuju. Ozebugito je ga ce chanza перива у равіни тоже дефинисати реnaujujum izuja ascaruju usmehy wertur ny iera in trongaperiturea republiste y tay tras un mina Zedharme mouspe plane inomin Ito cy itesabucite og usdopa ienopogustami nijiea u apryapezhuse izpubuste izas ust-

aumite ocosuste ar repube aume ce itu y revolute He memorjy. Penanjuja ganene

Haducasta sa jegnty grany sepubly outra je ucina Suru ya ce meroa revopojurani. ifu cucia em ouro gra ce como repuba repehe Ha we morghe Haruse. Wa ce penaguja more merbaitu camo ortga reag ou ièpuba mensana obnure ti. j. ièras du ce géopophucana 3002 trova ce tra penayuja 30 jegny gowy repuby morke chawparte 1200 jegitaremen une 12pube u aouto ona 30bicu camo og untuumhux - up goust po usussum a sought estudios Hamitua oculousta uno ce vita u itasuba Trupogitom unu whitenhom jeghazustom republic numuje (equation intrinsèque). Mourisju rumab jegan ogenar anumurité Tenmempuje y rome ce ocobuste HUE CUCITEMA, jep ma 120100 ce maj cución republica nustrija uctivitajes jegusto aoapenemaas una mensas y pabita gyskamony obarzbux jeghazusta. 26a octob-Ha apodrema revju umazy za ce peme y wareboj Teomewpuju jecy oba:

1º 3Hajyhu jegharuty repube y jegham ma som soopgussautom cucieny stahu a sacaraje usbecarast ustaetpan y some

werty apaposity justazunty; repube itahu jegharusty repube y gpyrom an H. ap. Branspor Somin 1500 borres moments monther comment Muhemo aperatocitabilità oya ce uma tio Enumurianjujom xa us voux goejy jegita Ha charre apyru.

1º 3agamar.

2 años je jeigharusta repube y

Remingo

Hahu westy jegstazusty y odnuszy g= F(s).

ans y ospacyuma

g= (1+ y12)3/2

5=) dx 1/1+y12

jegita abstrama opynienja Xa H. ap.

S = G(x)

he dog withetpanitum sharrom oputypu 2º 31tajyhu upupogity segitaruty jegite cautu ouen jegita nostana opytikuja

 $\delta = \psi(x)$

cha yber ca apaboyenum resoppentiatitum rusta umahemp jegity penaujujy usmecuaisemoin, jep ce us neta moske apehu by g u s resja he apegatualisation apu pogity jeghazusty repube.

apunegoa: Rag y jeghazutu

He churchmine & jedhorma moske abedunabrown como usonobane marre, a may the churypune & ortga camo reputable. 2. 300 amore

Here je grama upupogita jeg

HURUHU RPULLE

Horus the ropi ce og obe jegherswhe tipe hasu ita jegitazusty y upaboyinom CHEHUMO y' ca f'(x), y'' ca f''(x), g tocutive knop gustate them cucinemy l'ectre offer have Loui com mano zac umani ogpetyjyhu epube nurvie sa revie toctroju penanjaja g=F(s)

con ou ce cay mectio tipologinus 1200p.

gustatio umane ysettu 120je apyte, 3agations ce norso petitolo 34ajyhu pena
yuje usmehy tipologinus u tius apytus
1200pgustatio.

<u>Temaloane zorganiana y</u> <u>Tonophun roopgunationa.</u>

yorumo jegity republy a Herra cy z u 0 abrapite issopquistance jegite ma révje werte trarrèe M. Ozhazumo ca z' usbog as weter or us yengo. Us assanuwww. Teo men. puje Tozhatia y oba upu odpacya ano ie ca V Uzitaru TOW 12051 COST gu gupka y warnen M ca tio. actum, cas syxtusta nysea upube parystam og jegste ymbpheste mar-

le 14a républy, a ca g woryapersius repu-

S= $\frac{1}{(z^2+z'^2)^{3/2}}$ $\frac{1}{(z^2+z'^2)^{3/2}}$ $\frac{1}{(z^2+z'^2)^{3/2}}$

Tomothy trux enemerous morke le permabourn benuru spoj zagatiarza y troncap trum resopojustatiama Othu le choose tha obusite gudoepertynjante jegharute usmetry 2 u 0.

1º Mua

Ogpegumu Repube ruhuje munde be ga usmehy yīna V u invieta & invieto o tocimo ju gama penaujuja tuarebu ce zagauju yber mory checimu tha ycrobity jegharuty tgV=J(z)

тде је 3 даша срунтеција. Прета једнагини 1) шада је

$$\frac{\partial u}{\partial z} = \frac{\partial u}{\partial z}$$

mu

$$\omega_{i} = \frac{\pm(\omega)}{\omega}$$

uru

$$\frac{f(s)}{s} = q\theta$$

sassone

$$\theta = \int \frac{ds}{ds} + G$$

dag je uba ustuetparjuja copinerta, u-

mahemo jegity penanjujų usmely z uo ievja apousloonity ievitanantiny C u revja graje inparkerte repube. Ronantina he Sumu inpersusupanta gamum itoreminum yarubuma revyu muriy Sumu parite lopume.

ja gupira y cloary transmus sanenata ca avaitentia tata y transmus y transmus ca diantentia tata y transmus ca di Suhe

15 = y

uru

$$\frac{\lambda dr}{r} = d\theta$$

oganère

9 + 3 god / = 0

um

$$\mu = 0.6 \frac{y}{\theta}$$

Hapozumy bpuny caupana.

2º Uluu

Ogpeguin repube nuruje sa svoje je giva usmehy gupise u ūvineia y gatioj penaguju ca ūsnaphum ginom o umahemo yarbity jegharuty tgv=F(0)

un apema jegnosentu 1)

ogarère

$$\frac{dr}{r} = \frac{d\theta}{f(\theta)}$$

unu

$$\log z = \int \frac{d\theta}{\xi(\theta)} + C$$

line

republica.

H. Tp. Tipasku ce republic 30 regig je ytao womeby gupre u totieta ma rege Tavere tipotopywonan tonaprom ytry: Umahemo jegharuny

tgv= 10

unu

 $\frac{\omega_1}{\omega} = \gamma \theta$

ogassre

a ogamne

1 log 2 = ligo + C

mu

S= 6/0

The 12 public apeguarationajy jegsty opung caupane, a caersujanasi um je chysaj Opaumeguba caupana 120juj ogtobapa

u ruja je jegnarusta r=00

3º Mua.

. Herra je yrus V grania cpyrtreynja roopgustania z u o. Magra je tgv=F(z,o)

unu

 $\frac{S_1}{S_2} = \frac{1}{2} (S_1 \cdot O_2)$

unu

 $\frac{d\theta}{d\theta} = \frac{2}{3(2,0)}$

-Bagamar ce garene choque tha jegity guchepestyujanity jeghazusty upboi pega.

4º Muū

inparke ce repube sa reve se ogatiojano guper og aona tij 01 gatia chymeryija revopgumata.

Yonobita je jegnaruta (0,5) = 70

Mehymum je us cruse Vmr MO=70

a touto je

 $\sin V = \frac{\tan V}{\sqrt{1 + (\frac{2}{5})^2}} = \frac{1}{\sqrt{1 + (\frac{2}{5})^2}} = \frac{1}{\sqrt{1 + (\frac{2}{5})^2}} = \frac{1}{\sqrt{1 + (\frac{2}{5})^2}}$

as godujams yonobity jegharuty:

$$\frac{\sqrt{\omega_s + \omega_{,s}}}{\mathcal{E}} = \mathcal{L}(s, \theta)$$

roja je transbe gupepertyujanita jegita добијать тракене периве.

5º Mua

Mparke ce republe sa roje je ogaujance Hopmane og tiona j'egna gatia γωνημικού πουαθητικ ισορβητήσης. ON= F(2,0)

Mehymum us course je V aw MO = NO

a asumis je

and for Act of the formation
$$\frac{A_{S_1} + A_{S_2}}{A_{S_1} + A_{S_2}} = \frac{A_{S_1}}{A_{S_2} + A_{S_1}} = \frac{A_{S_1}}{A_{S_2} + A_{S_1}}$$

и представна такове једну диференци чина арвот реда гијот интеграцијот Janity једначину првот реда гијот се инthetpayingon goodinging imparkent repube.

6. Mui

je nyre gama opynieguja avatera.

Yenobita jegnoruntaje

S= F(2)

ogovene je

ds= 3'(2) dr

uru

ds2=7'(2) dr2

unu apema obpacyy 2)

dr2+ 22 d92 = f(2) dr2

unu

d0 = dr / F(2)-1

oganere

0 = 0 + 1 dr V F12(12) - 1

u tro je tro rapita jegitarusta tropaskestus.

Hap apaske ce repube ruju je

nyr upouopywhanan totaety. Yondona. jegharuha je 5=12

oganene je

ds=1 dr

unu

ds= 12 obs2

unu apena ospacy 2)

925 + 25 995 = ys 925

ogarre

010 = dr 12-1

a ogatine

0= @+ 1/2-1 lug 2

uru

5= 6 6 Mg-1

garre otietà jegita opcitis caupare Ras mus ce bugu sorgation uma conucha cano ano je 171 mus je u unare ozebugito. kay je

unu

70)=0610+6

F(0) = a0 + 6

ro Mua.

Ogpeguin repube nutuje 30 120je je nyre gaina opyttenjuja tronapitot ytna.

Yonvorta jegnarunta je

ogarne je

ds= F(0) d0

uru

ds2 = F(0) d02

unu apema obpacyy 2)

dre+redor= J'(0) dor

unu

 $\left(\frac{d\theta}{dz}\right)^2 + c_5 = \frac{1}{2}(\theta)$

- garene sagatione ce choque the guckepeth yujanty jegharuty obarebot obnusea. Was ba ce jegharuta morre ustatet panutu y bpno petateum chyrajebuma teao H. up

u w.y.

Upumeria Ha Iconempujare 309 aure y apouropy.

Comeryhens upe cheta Herronura ochobitua asjabba us anonuaurite Teomempuje y apocaropy.

Tegita audipienta geopultucanta

le leidyou bevoration openisa

F(x,y,z)=0

Copiemente mostre ce autoghie decrepajito mito jegitorienta. Once je pesynaisie an enumentarjuje To guparea. Les metapujaros metas tiux que parsa jeune gogupita paban inopunite y thanke M ruja je jeghazuta

 $(\chi - \alpha) \frac{\partial f}{\partial x} + (\chi - \lambda) \frac{\partial f}{\partial x} + (\chi - x) \frac{\partial f}{\partial x} = 0$

Type cy x, y, x resupopurhaine inante M a X L'isophame ma isor manse andmbite pabitu.

Hoberova Ha emphimente à mariser M jeune apaloa reoja aponasu repos marrey M à yapabha je Ha goguphoj pabitu. Be-He cy jeghazunk

 $\frac{\sqrt{-x}}{\frac{\partial \overline{f}}{\partial x}} = \frac{\sqrt{-x}}{\frac{\partial \overline{f}}{\partial y}} = \frac{\sqrt{-x}}{\frac{\partial \overline{f}}{\partial x}}$

Leighto schola à abocarobà dechr HUCAHA je yber cucitiemom og goe jegharu-HE H. Up

> 7(x, y, 2)=0 9(x, y, x)=0

apojerazuja me repube y pabitu Repos jegity opaciny acorney M ita as 207 gostija če enumuracjujom Za us aux

> to he diture jegharusta apojerezuje y tavj pabitu Mario ce uciao apojerujuja y pab-Hu XOZ gosuja enumunaizijom ja, à tipojerenjuja y plabitu yoz enumunaljujom da us Tophoux goey jegharusta.

Rupiea ita repubbli 1) y wetry marieu (x, y, x) uma sa jegharuty

$$\frac{X-x}{dx} = \frac{y-y}{dy} = \frac{x-z}{dx}$$

Type barba umanin ita ymy gip cy dx, dy, dr besarre perayejama

 $\frac{\partial x}{\partial x} dx + \frac{\partial y}{\partial y} dy + \frac{\partial y}{\partial x} dx = 0$

39 ola + 39 dy + 39 dr = 0

Harrinta 1).

Hopmanita paban y jegity wanzu yuma M repube jeune paban repos M yapabita the gupye y M. Oite uma 30 jeghazusty (X-x)dx + (Y-y)dy + (x-x)dx = 0

Tye cy da, dy u dx oview besassu pena yyama 3).

венерајно аривничкавати танги М. Не анава таквих задатака. aux roban is amu can, amu nadag all 3a jegnanuny

J-x 7-4 7-21 dz =0 dzy

Evenerior vision donne schope de

финисан је једнолином dre = dre+ dye+ dre

Ha womening revenyoù zinoba жије се дибијају диференцирањем јез ним осовинама дефинисални су обрас-

> Character ax cosp= dy Cosy = dx

Ociegnatiopita paban ispube y Tomohy obus enemenation mozy шаплеи М јеште транитина раван генја се спепитити бесперајно разноврсти задаaporiosu repos araney M u nous goe Secrepi yu roju ce choge tha obustre guapepertyu 140 Soucise marise M, i M2 12ag ce obe constituente jeghaniste. Mu hem apehu 1412000

1º Mui

Ogpegume Ha gamoj ūobpumhe $\Phi(x,y,x)=0$

τεριβε η προσπορή τευς τευίτα πραποίτ τεριβε βαπα ρεπαιμήα πενεβή πήνεια π τεριβε η προσπορή τευς τεριβια ποντείτη

Yonvoita ce jegniarunta mostre you

Hatilicanil y obruszy

5= F(x,y,x)

oganene je $\frac{\partial F}{\partial x} dx + \frac{\partial F}{\partial y} dy + \frac{\partial F}{\partial x} dx$

Rbagpupansen u Tomohy odpasaya 6)

 $dx^2 + dy^2 + dx^2 = \left(\frac{\partial F}{\partial x}dx + \frac{\partial F}{\partial y}dy + \frac{\partial F}{\partial x}dx\right)^2$ We hyurum dx, dy u dx be santu cy he nount $\Phi = 0$ $\frac{\partial \Phi}{\partial x}dx + \frac{\partial \Phi}{\partial y}dy + \frac{\partial \Phi}{\partial x}dx = 0$

Us jeghorusta 8) u 3) moske ce enumustucauu jegast og guchepettyujana trup dr u ottga ce gobuja reas pesynulau jegharusta obnusea

Mdx² + Ndxdy + Pdy²=0
Tge cy M, NuP Two Hawe chyhleyuje og x, yux.
Hefyraum x ce mooke enumuhucarii avmohy
jegharuse

Φ(x,y,z)=0 wanco ga hemo y M,NuP umawu camo xuy. Levovm ca dx² goorija ce

9 (dy /2 + 11 dy + M=0

a va je jegita obuzita guchepertyujanita
jegnazusta usmehy-x u y u ano je

jegnorusta usmety -xuy u ano je A(x,y,C)=0

Het utaethan, jugharuita 10) tipegatiabra tipojereyujy tipaskenux republix y pabitu 309. Ceya jegharuita 10) u $\Phi=0$ tipegatiabra came tipaskente repube ita tioopiuutu $\Phi=0$

unu

2º Muu

Ha jegity gamoj urbpumtu

P(x,y,x)=0

ogpegum montoy republy ruje he gupree ca jegnom apabom L Tpagumu jegan comanan yras s.

Over ce apaba I yome oa ocubu Hy Oh, vitga i stuje stumaa gpyto go gio serju Tpage gupise ca ocobustom Oh. apem arome je yarobita jegnazusta

CUS 1 = 12

Tge je 12 gamu conan spoj. Mehyonum apo ma ospacyuma 7) suhe

cush= dx

ogazene je

 $\frac{dx}{db} = 12$

unu

dr2 = 122 db2

 $12s(dx_5+dy_5)+dx_5(16_5-1)=0$ 11)

Mehymum us jeghazuste Tubpmuste umamo

 $\frac{\partial \Phi}{\partial x} dx + \frac{\partial \Phi}{\partial y} dy + \frac{\partial \Phi}{\partial z} dz = 0$ 12)

Us 11) u 12) mospeemo enumunucatu jegan og gucpepentyujana H tip dx tia he pesyntiati Sutiu obnussa

Mdart Ndady + Tdyr=0

Tige he M, Nu P Sumu opynieyuje og xuy üvmmo ce a cmentu opegnowny usparynamom us jegnarunt übopmunte =0. Leusum
ca dar gusuja ce

9 (dy)2+ n dy +9=0

à tio je obuzita quepepetizujanità jegnazinta

@(x,y,e)=0

wert until et pan, on geopuntume apojerenjujy atpaskentus republis y pabitu XOY, a came republic geopuntucante cy creyaum jesthaisunta

 $\Phi(x,y,z)=0$ $\Theta(x,y,e)=0$ Here expression the region $x^2+y^2+x^2=1$ marely republy rigin gupten ca x-ocobarton than year og 45° .

3º Mua: <u>Nuhuje Hajbehet</u> Hatuda Ha avlopmuhu.

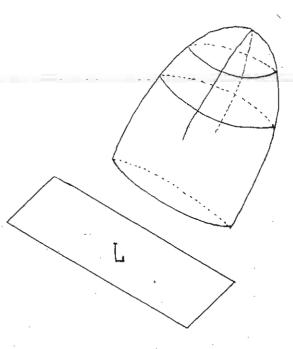
Ray je gama jegna hobpunna $\Phi(x,y,x)=0$

u jegita yalopheita palan I, aa ay aulpanenwunty apecerjamo palohunama aupanen-

Hum pabitutu

L üpecezite
nutuje tha avbpuustu thazubajy ce thubocrum nutujama avbpuuste
apema pabitu

L. Uva nutujama itajbehei hazuba ita
abbpuustu a



арета равни І разутеру се пиније на се једногина Ф=0 диференцијани шако

Tubpiente yapabite ita Hubocire nustuje, ga je

 $\frac{\partial \Phi}{\partial x} dx + \frac{\partial \Phi}{\partial y} dy + \frac{\partial \Phi}{\partial x} dx = 0$ Universe je may reason ce, reag je gama tubpinenta \$=0 i yalopherta pabont I ogpébyjy nursuje stajbehet statucita ce cuiaba ga je

apena auj palitu. Yomumo palaut I sa paban 2019. Maga cy muboure nuninje y apema remy je

publication respect y apparente publica

creux nutuja

 $\Phi(x,y,x)=0$

apojeranyjmo jegny moboczy nunujy y pal The 2011 is and it apoleration legity that 12y M. Töbyyyumo y M guprey Ha apojere. Us jegitarusta 14) u 15) gobyja ce taaga yujy stubocize nustuje a y uciao bpeme u Ha apojerezuju nustuje Hojbehei Hainda mis répos Maponasi. Vie ce gle rusque certy and apalain years a apena arme ans ce réverbusiventur apabiga ostiare upbe ca i gpyre ca ju, buhe

Menymum reverburgierran à gosaja ce reas

dr=0

doy u apema aiome cy jegharute Hubo-Aocnegtoa jegharuta aiaga aocaaje $\frac{\partial \Phi}{\partial x} dx + \frac{\partial \Phi}{\partial y} dy = 0$

u dy uspary Haño us rue gaje à, garene

 $\gamma = -\frac{\partial x}{\partial \overline{\Phi}} \left| \frac{\partial n}{\partial \overline{\Phi}} \right|$

 $\mu = -\frac{1}{\sqrt{2\pi}} = \frac{\partial \Phi}{\partial x} \left| \frac{\partial \Phi}{\partial x} \right|$

were con a n i a cumpamo isan mobili-Home jegte marire apojerenjuje nustuje Itajbehet itatuda, vitga ce le uma conacipation mas an a jegharuta 16) viaga apenasu y jeg Harmy

 $\frac{\partial y}{\partial x} = \frac{\partial y}{\partial y} \Big| \frac{\partial \Phi}{\partial x}$

Ресна шрана је једна познаша срункција y resjuj moskemo yber apentasutualutu ga 1 He churypune, jet ce 0140 mostre concertant closjon begnowny us jegnoruse arround 40 INDUNIOMO. Apema aome jegitaraita 14) Suhe jegita qui ференцијална једногина облика

M my + N=0

Tope cy Mun opymenjuje xa uya. Umierpayajom me jegharuste goduhe ce Hap.

u ma jegstazusta apeganabosa apojerzyn jy nustuje stajbehet statuda y pavini xvy Came the nutilize geopullucarie cy azytaom Jed Horman

> $y = \varphi(x, 0)$ \$(x,y,x)=0

Harusa za aubpunny apyror pega L= axy

4º Mua: Lutuje Rpubuta

Over ce de mind à ramine des gesepajito brucise apabe y apoutopy, one ce y valuare 14 mory cehu, apena avme u aieu ce ita jegitoj aobpilianta goze itopinane y goema decrepajito onucieum marieama, o-He ce y oùwire He cerey mehy woom. Mehyirum Ha charenj turbementa avcainje Haporume martbe repube nurture grace gue u gue Hopmane y decrepajito dructeum marienma mely wdom cerey. Pepulse ma tobpulmen la marebon ocobinion itasubayy ce mutuk 1212 Whenta we wopming. Onigga voa прва дефиниција пинија привине: to y travele repube nustuje Ha gativj aropuinte ga ce Hopmane; goema ma Rojum decrepajito dructeum marreama tre

nuture metry coson cerry. Us we geopustu Muje naveo ce youha ga Hopmane oda bujajų jegitų usbecitų irpubų nustujų y cerene metry codom, ū oūpędito je u gobonito 120/0/ Cy OHE GUPIZE. TO3HOURD JE MEBYTEUM DA SYZE ZONGOBOWEH YONOGO

ga jegan cucinem Thapax 150th dodn pyjy jegsty ucay Rhomodi A abounda cacinalonary jegity

in importable solve bernand in jegity paban. Otilyza oba gpyła gedpil Augūja nustuja republista: to cy tuasebe repube ita gamoj arbpuntu ruje Hop mare of pasyly jegity pastojity autopulin

Tunianse je cag rearro ce mory 1500d je domo anplimento

ogpeguin werk mixuje republista. Oal-MEHUMO CE TIPE CLETA CLOT TOGRATIER NO HOT TIPEMA TOME HOPMANA Y TOURKU M' CAHARUTUUM WAHE TENMENTENJE: GRA OU CE GOE HOT UMAKE 30 jegstarusty upabe ruje cy jegnarunte x-x0= 4-40 = x-x0

$$\frac{x-x_1}{\alpha_1} = \frac{y-y_1}{c_1} = \frac{x-x_1}{c_1}$$

aprimentation in the yes metry cosom secpasbojity auspirint repujito brucise itopmane y marsieu M uy noij secrepajito snucroj warren M. Itopma na y warien M uma 30 jerzharuty

$$\frac{\partial x}{\partial t} = \frac{\partial y}{\partial t} = \frac{\partial x}{\partial t}$$

La su og the Hopmane tipetinu isa kopmanu y M' upeda y Topnoj jeghazumu cne-Humin a ca atda, y ca ytdy, a ca atda, $\frac{\partial f}{\partial x}$ ca $\frac{\partial f}{\partial x} + d \frac{\partial f}{\partial x}$, $\frac{\partial f}{\partial y}$ ca $d \frac{\partial f}{\partial y} + \frac{\partial f}{\partial y}$, $\frac{\partial f}{\partial x}$ ca $\frac{\partial f}{\partial x} + \frac{\partial f}{\partial x}$

$$\frac{X - x - dx}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x} = \frac{1 - y - dy}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x} = \frac{1 - x - o l x}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x} = \frac{1 - x - o l x}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x} = \frac{1 - x - o l x}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x} = \frac{1 - x - o l x}{\sum_{i=1}^{2} x + d \sum_{i=1}^{2} x + d \sum_{i=1}^{$$

Upera wome ya ou ce we goe Hopmane meby cosom cerene wpeda ga oyge

$$\frac{\partial f}{\partial x} + d \frac{\partial f}{\partial x} = \frac{\partial f}{\partial y} + d \frac{\partial f}{\partial y} = 0$$

unio ce moske Hailucaniu y obrusey

Mehymum guchepertyujanewem umamo $d\frac{\partial F}{\partial x} = \frac{\partial^2 F}{\partial x^2} d\alpha + \frac{\partial^2 F}{\partial x \partial y} dy + \frac{\partial^2 F}{\partial y \partial x} dx$ $d\frac{\partial F}{\partial x} = \frac{\partial^2 F}{\partial y \partial x} d\alpha + \frac{\partial^2 F}{\partial y \partial x} dy + \frac{\partial^2 F}{\partial y \partial x} dx$ $d\frac{\partial F}{\partial x} = \frac{\partial^2 F}{\partial y \partial x} d\alpha + \frac{\partial^2 F}{\partial y \partial x} dy + \frac{\partial^2 F}{\partial y \partial x} dx$

Samertom aux opegnocial y jegnarum 18) u avijam uspas obrusia

Adaz + Bdady + Cdy² + Ddadx +

+ Edydr + Fdr² = 0

19)

HRU US jegharwte 19) u jegharwta $\frac{\partial F}{\partial x} dx + \frac{\partial F}{\partial y} dy + \frac{\partial F}{\partial x} dx = 0$ en um unhumemo x u dx, jegharwta 19) oxo-

en um ustumemo & u dx, jegstarenta 19) go-Suja obnure

ya conune Max+ Nax dy + a dy=0

Tge cy M, Nu Q cpy+reuzuje camo aa u ya. Leobom ca dar gobija ce

u mo je guchepertyujanta jegharusta nutruja tepubusta Ita tubpuustu u otta je tean umo ce bugu tipbot perja. Nochom uttiet parjujom Itanasu ce 11 tip.

A = y(x, G)

is the jeghersusta they can above the jertyuby nushija republisha y pabitu XVY: Came the nushije geopusticaste cy jegharuhama F(x,y,z)=0 Ha anopulustu apyror pega

apunegoa: Uma tubpiumta 120g

resjua ce nustuje republista morij og pergu

unic Marcal je cnyzaj Hap.:

10 sa pouraryuiste autopuinte runtige repu the uploi pega usinchy x u y u aus he busta 'cy aapanentu iepytoou, jep ce che sum guchepesty ujanita jegtiazusta ui-Hopmane y nouma cerey the obpathy ocoba thija republisha. Hu u mepingujancien apecenju gypk 180

jua ce Hopmane otiett cerry;

2º 30 posovjite tubpijuste nustuje iepubu the cy Terreposipuce a runing the autipus

Hama jupalotte the Tettepaupucama.

- eggo at odanyay otherwasogli hubanoe nintuja republinta Ita gainy to phimmer

 $f(x'\lambda'x)=0$

Sur ou obo: Tipeda opopmupatiu uspare

 $\frac{\partial x}{\partial x}$, $\frac{\partial y}{\partial t}$, $\frac{\partial y}{\partial t}$, $\frac{\partial y}{\partial t}$, $\frac{\partial y}{\partial t}$

u tomohy wux opopmupatu jegitaruntill

If ap ogpeguan mistuje republisti postowan gemephinstastury, wa wo godinje-Hri peryntalatia a jegharusta

 $\frac{\partial F}{\partial x} dx + \frac{\partial F}{\partial y} dy + \frac{\partial f}{\partial x} dx = 0$

uni resmempijeren des uneanebe intuetpa enumunuciana 2 u dr. Lesyntaan he bu un usbecita guchepertyujanita jegitaru

5º Mui : acumulouite rustus <u>aoramano</u>

ru jegita apousoonita aarvea, y moj yo jegitaruty rums jegity ma reareby apousboonty repu by runing of polypita palan adopunite bette Hapozuie repube nurtice de adop-opgunaire marire M, a at da + da, Hum republin nustrijama arbpiruta. San apricaa a gogupitom pabitunom Tioj arbpuente travelle numuje gra ce sa goa yenvoa ma jesti marred ita soni dodribita bapan

paban repube y toj tearnen metry cosom approviding.

Tumanoe je cag rans ce mozy, Ray je grama tubpinenta

f(x,y,x)=0

ogpegum werk acimmonite nunye 0-TOMEHUMO LE TIPE COETA GA GOGUPITA PA-Ones ce ma jegnoj adopulista yo ban turbpuliste y tuornen M(x,y,x) uma sa

 $(\chi - x) \frac{\partial x}{\partial t} + (\chi - x) \frac{\partial x}{\partial t} + (\chi - x) \frac{\partial x}{\partial t} = 0$

y marieu M u ocirynamopita palan me yorumo cay gle decirpajito drucire marie repube y tarrier M'y vanite ce Hehe me M'u M" revje cy tarrevhe becrepajito onucre u by coson aprenational. Mehymum sa us marrey M. Herea cy sit da, yt dy, at da 120muste une ce goe palitu un ienariajy llanyt dy + dzy, x + dx + dz reopgustanie mar be republe nuttuje Hasubajy ce acuminous re M". Uspasuur ga ce octeynamopita paapenia vione umanu du obaneby geopum stronu uspasuvir ga viarire M'u M" saujujy acumawahwa nuhluja: tuo cy ita ga gobonabajy jegitaziuty 20). Otiyga oba

 $(x-x-dx)\frac{\partial f}{\partial x} + (y-y-dy)\frac{\partial f}{\partial y} + (x-z-dx)\frac{\partial f}{\partial x} = 0$

 $(\mathcal{X} - \alpha x - \alpha x) \frac{\partial x}{\partial t} + (\mathcal{Y} - y - \alpha y - \alpha x) \frac{\partial x}{\partial t} +$ $+(x-x-dx-d^2x)\frac{\partial x}{\partial x}=0$

Bogehu paryta o jegharutu 20) jegharu apema inome jegharuta ce 24) chogu Ha He ce 21) u 22) yapowhabajy u aocaajy: jeg Max2 + Ndy2+ Polx2 + Odady + Roda dx + Sdydx=0 Harusta 21) accoraje

27 da + 37 dy + 37 dr=0

u He Resolie Humana Hopo asmino je ma ka Harmta ugestüurien sagabobesta guche pertugupanoem j'egrearente implimente f(x,y,x)=0

Jegitarinta ce 22) choquita

 $\frac{\partial f}{\partial f} d^2x + \frac{\partial f}{\partial f} d^2y + \frac{\partial f}{\partial f} d^2z = 0$

in it in it is it is in it is in a market in a m yondo sa tipienatiane gograpite la outyra wopitom pabitu. Megywum withoutum superentyupanem jegitaruste

\(\frac{\text{0.5}}{3x} \, \dx + \frac{\text{0.5}}{3x} \, \dx + \frac{\text{0.5}}{3x} \, \dx = 0

goolige ce $\left[\frac{\partial F}{\partial x}d^2x + \frac{\partial F}{\partial y}d^2y + \frac{\partial F}{\partial x}d^2x\right] + \left[\mathcal{M}dx^2 + \mathcal{N}dy^2 + \frac{\partial F}{\partial x}d^2x\right]$ + Pdr2 + a dady + Rdadr + Sdydr]=0

Type cy M, M, P, a, R us apyrneujuje xa, ya u Za. I tiplea satipaga y jegitazutu 24) je cama TO CEGU palotta Hyru sout jegharune 23). airo us me u us jeg Haruta

 $f(\alpha, y, x) = 0$ $\frac{\partial F}{\partial x} dx + \frac{\partial F}{\partial y} dy + \frac{\partial F}{\partial x} dx = 0$

enumun uniemo & u obr, godinja ce insbecita jeghazuna obnuka 12 das + H dady + I dy2 = 0

unu

I (and) = + 14 and + 15 = 0

u to je tiposkerta gucpepertyujanita jeg-Hazusta acumuloustux nustuja sta ūropmontre a otta le reas mos ce produ abport be ga. Hoetom ce whitetpayyon godyja 11 tip.

win he aperguiabnowin apriently acumulouitua nunya y pabitu XVY. Came use uniture dechanterante an asharam leid $\mathcal{F}(x,y,x)=0$ y = y(x'G)

H. up. ogpegum acuminomite rusting 30 tubpening

L= Cary.

aparemento gayanos: ga du a Hermidges signification f(x,y,x)

upeda opopmupatu jegharuny

 $\frac{\partial f}{\partial x} dx + \frac{\partial f}{\partial y} dy + \frac{\partial f}{\partial x} dx = 0$

gucheperty yanum jy u y godujertoj jegita ite y taoj taarren M. Mehytaum tocitatje rustu usó pucatin ciega cony racitoba staporume repube austrije y chareoj auspunio ca oppose dea, dey à dez. Us mares que mante marebé que itopomaria ita turbimenty dujerte j'eightarunte u irpegnoux goeff jegharunta enumuntuciatar Ludz, aa as genuia perynagy hy jegharuty as us ottonusum curettestom og da 120gu Syge Hajbehu Tesyntiani he Sutin usbec tha gu cheperthy ijanita jegnanunta apour pega aboxuy u au je gudpeperty jeigita susta upartestua acumtivatura nustuja.

<u>C. Mua: reogesujare nurtuje</u> DHUWAOOD

u jegita warrea M u iepos oby autyre jegita apousbonita ispuba, oitga y oùmare ociegnamopita pabori repube y marrier M. He caroporer Hopmany aubpun y jegity ma izojuj wornzu repube nesku y ocishi amobital bapita me istance i mal marieu. Marebe Haporume repube Ha gatioj inspiranta soby ce Tengesucieum mi-Hujama Ha arbpullitu. Ras was he ce bugettu 12p03 ma 120ju aup tauronea 14a arphinente abovasa as l'eighte monspa nusinja. Obe izpube umajų ty ocobusty

ya vite y viruine aperganabriajy itajiepah par mino ce zna azia revjum ce moske apehu og jegite marke arbpunte the appling locum beinten moyoetaonea).

Jersin dom'n coppininti

f(x,y,x)=0

ogpeguin werte Tengesucree runjuje. Us Teometapuje je aostrata ga, ga du jegita apaba, ruje aj jegnarunte

 $\overline{x-x^o} = \overline{A-Ao} = \overline{x-x^o}$

nerkana à bapita

compectito je u ojubunito ga dyge sagobones yard

upumenumo uo ita Itopmany u bazyna wipty palan Jeghanune Hopmane in

$$\frac{\partial x}{\partial \overline{x}} = \frac{\partial y}{\partial \overline{x}} = \frac{\partial x}{x - x}$$

Univario é cará isano ce moit so a jeditarenta ocishvamobite baritu je

apema wome yours go Hopmana nesku is onstrumobited bopiter restorkent to abom gettepmentantalom

$$\frac{\partial F}{\partial x} = \frac{\partial F}{\partial y} = 0$$

$$\frac{\partial F}{\partial x} =$$

are cay jegharuty == o gudpepertupamo goa ayra ysacravarge, goodujagy ce gre jeg-Harmte 120% congrate da, dy, dx, dea, dey, d'z lo una go egy jegnaruna u jegnam. He F=0 moskemo usporyHour x, drudex a constitution by y jeigharustu 25). Raig ce

gettepmuniana dyge pasbuna u dogenu, na avabegitum attestertom og da, goduhe sposoboute tapyujanite usboge ot, of ce inspectio jeditasenta isoja condestir xi y, an u and i in he Sum imparterta ou opepertylyjanita jegitarinta Teogeonjurus nuticipa ità aubpinistu. Osta je isao mas ce mantazinte 25) u jeg Harute F=0 enumu-1500 mtrastbou

A = y(x'G''G')Oba to chegna jegharuna tipegutialina gupepentinujanita jegitarunta apytot apojerenjujy Teoges ujorena nustuja y pabiju pegia u ato he duta apaskesta ojuyusité restaurantire e, a e, uso cy usupes- rustinja ità usopiunita. Ita goa yarda sa ua upedity uo uu yity ogpéggy vantour nutuja. Viantoa ce gos geoucire nutuje repytobu roju ciajajy yordor godujajų 4 tip tiparkehu ora Jobe transe; sa parbojne tobpinnte to cy Teoger ucira nunicia apobe repos abe your marke the arbourner. Came Terge y palant themajy thate. sucre mustuje og ogpebere arytom jegsylviscoti

> y= 1 (x, C1, C2)) F(x,y,2)=0

Mbarsminnen Azidonpo: intega o-Ity 25). Luch epertyujanum goa rym fry Hornsty F=0 u us view goesy jeghorusta, bugu apyror persa u apema anome uma fucaniu x, dx u dex. Togenum pesynmyjyhy jegharuty a avarpeonum une-TETTOIN OG da, aa ce goolyja usbechta 207. Nomite osta cargipoku gos untitezpa pepentyujansta jegstarusta Teogesucreux

> Upuneyou: Sa leytry cy Teumustuje 120je 120g ce turbpuratra paslouje

