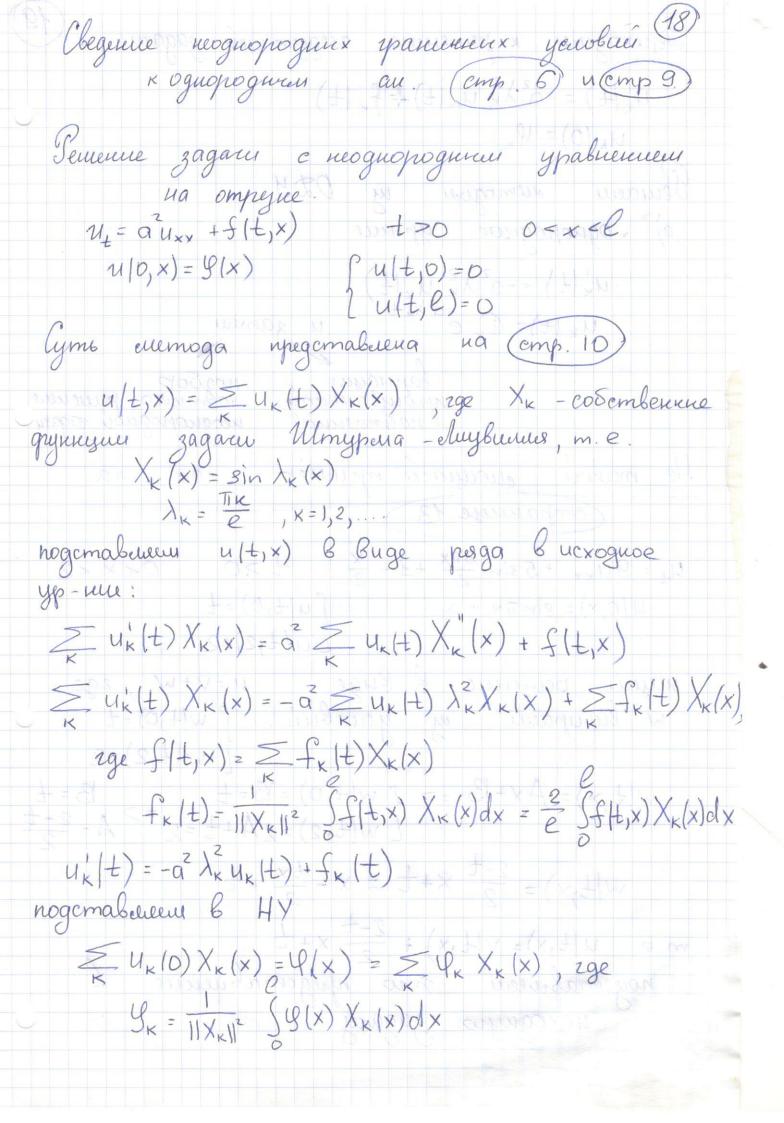
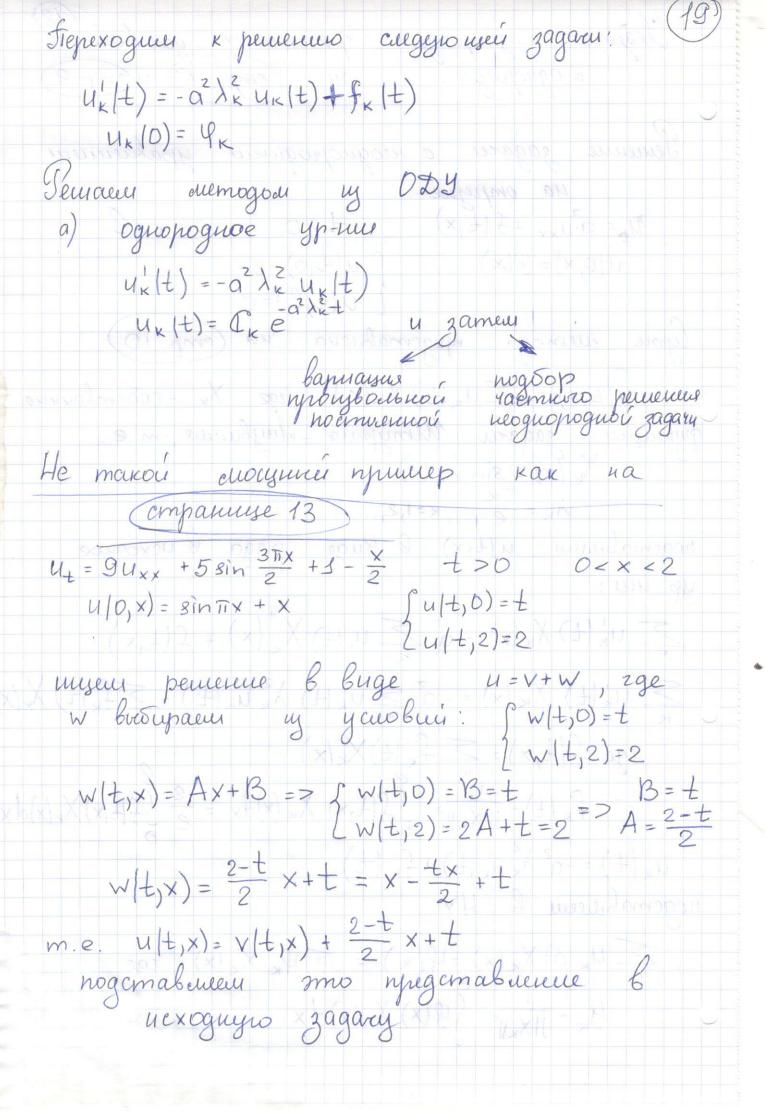
Уравнения тениопроводности. 11/t, x) - meunepanypa 6 consprise guenos l λ-κοεφητισειενί menuonpologuocmu с -коэдоризисит уденьной тивенкости p- nuomuoemo benjecmba Для одногнатого решения задачи необходения допосние темьние усновия: u(0,x)=9(x) < HY (Ty) (Ty)II-20 paga (Heimana) panninge 1/2/t,l) = g/t) = V(t) на рашин дейновует g/t) - nuomuocmo menuo вого потока III -го рода (Робена или сметанное) $u_{\times}(\pm,0) - \frac{h}{\lambda} \cdot u(\pm,0) = -\frac{h}{\lambda} \Theta(\pm)$ 40 rpanuse $u_{\times}(\pm,0) - \frac{h}{\lambda} \cdot u(\pm,0) = -\frac{h}{\lambda} \Theta(\pm)$ 40 rpanuse orphymatolytic chegor Teurrepanuspin $\Theta(\pm)$ h- kosgiquiseieum menuoodiueua 0/t)- meunepamypa Bueunei cpegu Ux(t,0)-Hult,0)=6/t)

Semence ypabulun menuonpologuoone (17) на отреше Tipumeneune enemoga pageneuna nepenneun x 14 = a uxx +>0 0 = x < C 110,x) = 4(x) (u/t, 0)=0] u/t,e)=0 Cuegya enemogy paggenerus repenseure (enemogy Pypoe, museus penseure 6 buge u(t,x) = T/t) X(x) $T' = -\lambda \alpha T \qquad X = -\lambda X$ $\int T(t) X(0) = 0$ => $\int X(0) = 0$ $\int T(t) X(\ell) = 0$ => $\int X(\ell) = 0$ Due X(x) onems gagara Menypera-Suybreness covemb. qr-yer $X_n(x) = \sin \lambda_n x$ $\lambda_n = \frac{\pi i n}{2}$ $T_n = -\lambda_n^2 \alpha^2 T_n$ Tn(t)= Cne hazt pennenne u/t,x)= Ene la sin Anx nogemabelleur β HY $(110, x) \ge \sum_{n=1}^{\infty} C_n \sin \lambda_n x = \varphi(x)$ $C_n = \frac{2}{e} \int \varphi(x) \sin \frac{\pi n}{x} dx$





$$V_{+} - \frac{x}{2} + 1 = 9V_{xx} + 5\sin \frac{3\pi x}{2} + 1 - \frac{x}{2}$$

$$V(0,x) + x = \sin \pi x + x$$

$$V(t,0) = 0$$

$$V(t,2) = 0$$

$$V_{n} = \frac{\pi n}{2}, n = 1, 2, \dots$$

$$V_{+} = 9V_{xx} + 5\sin \frac{3\pi x}{2}, t > 0 \qquad 0 < x < 2$$

$$V(0,x) = \sin \pi x$$

$$\int V(t,0) = 0$$

$$V(t,2) = 0$$

$$V(t,2)$$

Semann ognopognoe yp-me: Jipenneueeu enemog bapuayen mongonemon $C_3 e^{-\frac{81}{4} \pi^2 t} - \frac{81}{4} \pi^2 C_3 e^{-\frac{81}{4} \pi^2 t} = -\frac{81}{4} C_3 e^{\frac{81}{4} \pi^2 t} + 5$ $C_3 = 5 e^{\frac{81}{4} \frac{\pi^2 \pm}{11}} = > C_3 (\pm) = \frac{20}{81\pi^2} e^{\frac{81}{47} \frac{\pi^2 \pm}{12}} + C_3$ $V_3|\pm) = \frac{20}{8/\pi^2} + C_3 e^{\frac{-81}{4}\pi^2} \pm$ $V_3(0) = \frac{20}{81\pi^2} + C_3 = 0 = > C_3 = -\frac{20}{81\pi^2}$ $(V_3(+) = \frac{20}{81\pi^2}(1 - e^{-\frac{81}{4}\pi^2}+))$ CoSupaeus Bcè Benecona n nongraeus Ombem: 4 H, x) = e sin 11 x + 20 (1-e = 112) sin 2+ + 2-t x + t