Hn 5098124-27. Sonn̄ lwaind iegetei a fracei ul felnai fosuisedeler
$\qquad$
$\square$ 10.72, 17

Cectoanas aedlfe. citelme Cydi/85 $\mathrm{Cy}_{4} \mathrm{HO}_{8} \mathrm{OO}_{2}$ fiitin' itmin' 14,6 faluar loger $111 \mu=87,8$

$$
\frac{S_{98}}{J_{20}}=\frac{V_{20}}{V_{95}}=0,887
$$

$$
\sigma=\frac{p}{a} \frac{1}{1+d t} \frac{\sigma_{0}}{779} \quad \text { withern } r_{\nu}=2,56 \text { 的 }=7 y
$$

$$
\sigma=2 \cdot \frac{1}{1,36} \cdot \frac{3}{770}
$$

$$
\text { Gerliglacedulima } \sigma_{0}=2,\left.\left.56 \mu^{\prime}\right|^{\prime}\right|^{\prime \prime}=88
$$

$$
\sigma_{0}=2,1 \sigma^{\frac{88}{7 y}}
$$

$$
r=0,006
$$

$$
f_{98}=\frac{a^{2}}{2}(3-\sigma)
$$

$$
\begin{aligned}
& y=0.8134 \\
& 98
\end{aligned}
$$

$$
g_{90}=1.632
$$

$$
a_{98}=1, g \operatorname{cs}^{3} \cdot \frac{1}{1,0004}=2.011
$$

$$
\begin{aligned}
& u=6,2 \\
& 19^{\circ 5} \mathrm{C} \quad \xi=\frac{453,8}{200}=2,26 \mathrm{~g} \\
& 98^{\circ} \quad \xi=\frac{99}{2 m}=1,965 \\
& \alpha_{1}=7^{\circ}=420^{\circ} \quad \alpha_{c}=24^{\circ}=1440^{\circ}
\end{aligned}
$$

$$
\begin{aligned}
& \text { thíratis } \\
& a=\frac{q^{\prime}}{\xi}\left\{\frac{1}{1+0,0002 \Delta g_{2}-0,0002412 ?}\right. \\
& A S_{1}=\frac{\alpha_{1}}{2} \frac{n^{\prime}-n}{n_{n}^{\prime}} \\
& \Delta t S_{2}=\frac{\alpha_{2}}{2} \frac{n-n^{\prime}}{n n_{1}^{\prime}} \\
& \alpha_{1}=7^{\circ}=420^{\prime} \\
& \sigma_{2}=24^{\circ}=1440 \\
& 19^{\circ} 5 \mathrm{C} \quad\left\{=2,26 y \quad u=6,2 \quad \frac{\xi}{u}=0,366\right. \\
& n, \text {, } 5^{\circ}=1,373 \\
& \text { nipsgio no untös } \frac{\xi^{\prime}}{4^{\prime}}=0,366 \text { me } \frac{a^{\prime}}{\xi^{\prime}}=1,038^{\circ} \\
& a_{1,5}=1,038 \cdot 2,26 y \frac{1}{1+0,0028+0,0010}=8,346 \\
& a^{2}=5,5,504 \quad s=0,9007 . \\
& \frac{h-1}{h}=c \text {. } \\
& f=2,479 \\
& \left(n_{20}-1\right) v_{20}=\left(n_{28}-1\right) v_{g 5}
\end{aligned}
$$

Junifucter of des Gaver
anf 0 berngen $0,565-0,576$

Ans deterngicasffiums 0,00746
$-0,00166$
Surpppuing nads Auprailt.

$$
\begin{array}{cc}
0^{\circ} & 4,19 \\
10^{\circ} & 6,02 \\
15^{\circ} & \text { \& }
\end{array} \frac{7,14}{} \begin{array}{ll}
7,14 \\
20^{\circ} & 8,41 \\
25^{\circ} & 9,84
\end{array}
$$

$100061,32$.

Cetsonas aethyl.
$12: 5^{\circ}$ mil

$$
\begin{array}{ll}
a=2 \cdot 34 b, & a^{2}=5.504 \\
I=0.900 \% & \mu=87 \cdot 8
\end{array}
$$

$$
\ddot{v}_{0}^{\mu}=97.48, \quad \lambda=4.602 \quad t^{2}=2118
$$

$$
x^{2}=52 \cdot 5 y
$$



$$
\begin{array}{ll}
\sigma=0.006, \quad J=0.799, \quad \delta-\sigma=0.793 \\
\mu=109 \cdot 8 \quad \lambda=4.790, \quad \lambda^{2}=22 \cdot 94 \\
\mu, 1^{2}=36.82
\end{array}
$$



$$
\begin{aligned}
& \alpha_{1}=6^{0}=360 \\
& \alpha_{2}=32^{\circ}=1920 \\
& d_{1}^{\prime}=2^{0} 15^{\prime}=x a y s^{\prime} \\
& \delta_{c}^{\prime}=78^{\circ}+608 . \\
& \begin{array}{l}
\left.a=\frac{a^{\prime}}{\xi^{\prime}}\right\} \frac{1}{1+\frac{1}{2} \frac{\cos \frac{d_{1}}{2} \Delta \delta_{2}-\cos \frac{d_{1}^{\prime}}{L} \Delta \lambda_{1}}{\operatorname{ai} \frac{l_{1}^{\prime}}{L}-\sin \frac{l_{1}^{\prime}}{L}}} \begin{array}{l}
\Delta \delta_{1}=\frac{\alpha_{1}}{2} \frac{n^{\prime}-n}{n^{\prime}}
\end{array} .
\end{array} \\
& \Delta S_{2}=\frac{\alpha_{2}}{i} \frac{h_{-n}}{h n^{\prime}}+1+0 \cos \\
& \left.a=\frac{a^{\prime}}{s^{\prime}}\right\} \frac{1}{1+0,0001 g \Delta \delta_{i}^{\prime}-0,00024 \Delta d_{\prime}^{\prime}} \\
& \text { Tan. 18,5C, }\left\{=\frac{440,8}{200}=2,204 \quad u=7,22\right. \\
& \frac{\{ }{n} \text { mimsolíl } \frac{\xi^{\prime}}{4!}=\quad \frac{a^{\prime}}{\xi^{\prime}}= \\
& a=
\end{aligned}
$$

$$
\text { Ianpe o8: } \xi=\frac{406,8}{200}=2,034
$$

Segenystome HfN $P_{3} ; \mu=62.89$

$$
\begin{aligned}
& \alpha_{1}=360^{\prime} \quad \quad \alpha_{2}=1920^{\prime} \quad \mu=7 \cdot 22 . \\
& t=17 . \\
& \zeta=2 \cdot 204 \\
& \sum_{u}^{3}=0.305, \\
& \text { miscuibluil } \quad \frac{\xi^{\prime}}{u^{\prime}}=0.305-140 \quad \frac{a^{\prime}}{\xi^{\prime}}=\frac{3.832}{3.595^{-}}=1.065 \\
& a=\frac{a^{\prime}}{\xi^{\prime}} \xi \frac{1}{1+0.000194 V_{2}-0.000244 V_{1}} \\
& 3)^{2}-20=1.400 \\
& \begin{aligned}
n^{\prime} & =1.333 \\
n-n^{\prime} & =0.067
\end{aligned} \\
& \Delta V_{1}=-\$ 2 \cdot q=-6.45 \\
& m^{\prime}=1.87 \\
& \Delta \theta_{2}=68 \%=34.35 \\
& \alpha=1.065 \cdot 2 \cdot 204 \cdot \frac{1}{1+\frac{1}{2} 0.013+\frac{1}{2} 0 \cdot 0031}=2.34726 \cdot \frac{1}{1.008} \\
& a=2.328
\end{aligned}
$$

$$
\begin{aligned}
& \frac{\mu}{s}=41: 34 \\
& d=34.58 \\
& d^{2}=11 \cdot 95
\end{aligned}
$$

$$
\begin{aligned}
& a^{2}=5 \cdot 419 \\
& f=4121
\end{aligned}
$$

$$
f d^{2}=49 \cdot 28
$$

$$
t=780 C . \quad \xi=2.034 . \quad \frac{\zeta}{\mu}=0.281
$$

seqédecituäl $\quad \frac{\xi^{\prime}}{u^{\prime}}=0.284-\mathrm{he} \quad \frac{a^{\prime}}{\xi^{\prime}}=1.06 \mathrm{bs}$

$$
\begin{aligned}
& n_{18}=1.374 \\
& n^{\prime}=1.333 \\
& m-n^{\prime}=0.041 \\
& n n^{\prime}=1.83
\end{aligned}
$$

$$
\Delta V_{1}=-4 \cdot 03
$$

$$
4 V_{2}=21: 5
$$

$$
\begin{aligned}
a & =1.065 \cdot 2 \cdot 034 \frac{1}{1+0.000194 \theta_{2}-0.00024} 10_{1} \\
& =2.16621 \cdot \frac{1}{1.005}
\end{aligned}
$$

$$
\underline{\underline{a}}=2: 15
$$

$$
\begin{aligned}
& \frac{\mu}{J}=44: 38 \\
& \lambda=3: 540 \\
& d^{2}=12: 53
\end{aligned}
$$

$$
f d^{2}=41 \cdot 19
$$

Seiompean dis Nos
tamp $75^{\circ}$. C. (D).

$$
y=2.005
$$

$$
a=2 \cdot \cos \cdot \log 4 \mathrm{f} \cdot \frac{1}{\cos s}
$$

$$
\begin{aligned}
& y_{1}=1.117 \\
& =0.277 \\
& =0.27 \%, \quad \begin{aligned}
a^{\prime} & = \\
& =1.07^{4}
\end{aligned}
\end{aligned}
$$

$$
a=2142
$$

$$
\begin{aligned}
& M=44.38 \\
& d=3.540 \\
& d^{2}=12.53
\end{aligned}
$$

$$
\begin{aligned}
& a^{2}=3 x 2=4.588 \\
& f=372=3.250 \\
& f^{2}=70.0 र=40.75
\end{aligned}
$$

$$
\begin{aligned}
& \alpha_{1}=3 \sigma_{a^{\prime}}^{\prime} \quad \alpha_{2}=1920^{\prime} \quad U=7 \cdot 22 \\
& \operatorname{trmp}(\theta)=19120 \mathrm{C} \\
& \text { S20 }=1.521 \\
& \xi=2: 19 \\
& \frac{5}{a}=0.303 \\
& \frac{\xi^{\prime}}{u^{\prime}}=0.303 \mathrm{ma} \quad a^{\prime}=1.074 \\
& \underline{\underline{a}}=1.074 .219 \cdot \frac{1}{1.008}=2.333 \\
& a=21333 \\
& \ddot{j}=4 / 13 / \\
& 1=3.458 \\
& a^{2}=5443 \\
& 1^{2}=11.95 \\
& f=41139 \\
& f \mathrm{~m}^{2}=49 \cdot 4 q 3
\end{aligned}
$$

Ethyefremint. Cs $S_{0} O_{2}$
semp. $6.5^{\circ} \mathrm{C}$

$$
\mu=6.15, \quad \xi=2.184 .
$$

Semp. $21^{\circ} \mathrm{C}$.

$$
a=2.219
$$

$$
a^{2}=4 \cdot 924
$$

$$
11^{2}=42 \cdot 03
$$

$$
\begin{array}{ll}
\xi=2.128, & \frac{Q^{\prime}}{\xi^{\prime}}=1.0116 \\
d_{1}=0.913 & m_{21}=1.360 \\
\frac{M}{N}=88.86 & \neq \\
1=4.3211 & \\
1^{2}=1870 & f=2.247
\end{array}
$$

tomp $78^{\circ} \mathrm{C}$.

$$
\begin{array}{ll}
\xi=1.875, & a^{\prime}=1.036 \\
\xi^{\prime}=18 & =0.833 \\
\sigma=0.005 & n_{7 f}=1.328
\end{array}
$$

$$
\begin{array}{ll}
\underline{a}=1 \cdot 941 & \frac{a}{3}=88.63 \\
a^{2}= & 1=4.458 \\
\text { LA }^{2}=31.00 & d^{2}=19.87
\end{array}
$$

$$
f=1.559
$$

$$
\begin{aligned}
& A_{6} 5=0.931 \\
& m_{0.0}=1.067 \quad \frac{a^{\prime}}{y^{\prime}}=1.048 \\
& a=1.048 .2 .184 \cdot \frac{1}{1.0035}=2.287 \\
& a=2.281 \\
& \frac{\mu}{0}=79: 30 \\
& a^{2}=5 \cdot 203 \\
& 1=4.296 \\
& A 1^{2}=44 \cdot 70 \\
& 1^{2}=18 \% 5^{-} \quad f=2422 .
\end{aligned}
$$

Flanyga, ana. elly,

$$
C_{3} H_{6} O_{2} \quad \mu=73 \cdot 83
$$

Ethyefrasist,
$J_{0}-0,940$ hïng Puere is llyp wis

$$
u=6,15
$$

1) tump. 6.5
$\xi=\frac{y, 6,7}{200}=2,184$ $s_{6, r}=0.931 \quad n_{6,5}=1367$.
2) Lyge 210 $\xi=\frac{425,6}{200}=2,128$

$$
r_{21}=0.913 . \quad n_{21}=1,360
$$

3) $2 \mathrm{z} \cdot 78^{\circ} \quad \xi=\frac{275}{200}=1,875$
${ }_{788}=0.833 . \quad u_{78}=1328 \quad \sigma=0,005$
Vigencos' 'Expipetta $z^{\prime}=15$ 2ye. $22^{\circ} \mathrm{C}, s^{\prime}=\frac{233}{200}$


$$
\begin{aligned}
& \text { 1) } \zeta=2 \cdot 184 \ldots \frac{a^{\prime}}{y^{\prime}}=1.048 \\
& \frac{\zeta}{\mu}=0.35 J . \\
& \text { 2) } \zeta=2.128 \\
& \frac{a^{\prime}}{\xi^{\prime}}=1.046 \\
& \frac{\zeta}{\mu}=0.346 \\
& \text { 3) } \quad \xi=1.875 \\
& \frac{a^{\prime}}{\xi^{\prime}}=1.036 \\
& \frac{\zeta}{10}=0.305
\end{aligned}
$$



N8s5
Ethocieffinatisyetromion

| $d^{\circ}$ |  | $\frac{a}{12}=\frac{\operatorname{tg} \alpha}{\sqrt{2}}$ | $\frac{r}{\alpha}=\frac{\frac{r}{h}}{\frac{a}{h}}$ | $\frac{h}{a}=\frac{\sqrt{2}}{\operatorname{tg} x}$ | $\frac{2 h r}{a^{2}}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0, | 0, | 0, | $\infty$ | 1， |
| 10 | 0,00 z 619 | 0,1246820 | 0,0622360 | 8，0204000 | 0,99833 |
| 20 | 0,0328862 | 0,2573660 | $0,12 z z 86 z$ | 3,8855180 | 0,99303 |
| 30 | 0,0819190 | 0,4082480 | 0,2006645 | 2,4494920 | 0,98306 |
| 40 | 0,1700450 | 0,5933340 | 0,2865920 | 1，6853920 | 0,96605 |
| 50 | 0,3328830 | 0,8426960 | 0,3950210 | $1,18666 \geq 0$ | $0,93 \geq 52$ |
| 60 | $0,66594 \geq 0$ | 1，2247460 | 0,5437440 | 0.8164950 | 0,88 7 93 |
| 80 | 1,5016210 | 1,9427590 | 0.7729320 | 0,514 \％ 320 | 0795 z |
| 80 | 4,8328000 | 4,0102000 | 1,2051280 | 0,2493640 | 0,60103 |
| 81 | 57091440 | 4,4644970 | 1，278 2880 | 0，2239894 |  |
| 82 | 6,9303430 | 5．03132 20 | 1,3575630 | 0,198754 z |  |
| 83 | $8,33 \geq 2660$ | 5,7589230 | $1,44 z z 130$ | 0,1 t 36436 |  |
| 84 | 10,4462050 | $6,72 \geq 6 \geq 20$ | 1，552 2280 | 0,1486398 |  |
| 85 | 13，561．9050 | 8，08226も0 | 1，6779890 | $0,12372 z z$ |  |
| 86 | 18，5304100 | 10,1121000 | 1，8324990 | 0，09889142 |  |
| 87 | 27.4313300 | 13,4924000 | 2,0330900 | 0,0741158 |  |
| 88 | 46,92 と 1300 | 20,2488900 | 2,31 も 51 z 0 | 0，04938542 |  |
| 83 | 113，6z2z800 | 40,5101200 | 2,8060350 | 0,0246852 |  |
| 90 | $\infty$ | $\infty$ | $\infty$ | 0, |  |


hailetar 1885 tyot Giki
－in Acetomibil kifigre．
2y ぶうしでk

forralen

$$
\text { Te. } 99^{\circ} 2
$$

 obichijims oby

$$
\begin{aligned}
& \text { Tey. 21,5 } \\
& \underset{\substack{502 \\
502 \\
502}}{\substack{2 \\
5}} \\
& 502
\end{aligned}
$$

Seyeroning wase $\operatorname{Tenga} 21^{\circ} \mathrm{C}$.

bsi,5 $u=8,5 \quad a=0,824$

II no"' (hiss/ hïso" àtere" 22,8 $n=9,45$

manasion henter

$$
\left.\begin{array}{l}
\text { yoy } \\
\text { yoy } \\
70 y
\end{array}\right\}_{\xi 050,2506} \frac{\xi}{a}=0,374 \quad \frac{a}{\xi}=1,082
$$

III co. (hain) 25,8 misisiow beakeen $u=10,8$

$$
\begin{array}{lll}
1 i, 25,8 & 712 \\
712 & 710,711 \\
710 & 71030,555 & u=10,8 \\
712 & 10 &
\end{array}
$$

IV cro" him file 27,2 licho" ínúo"
$\qquad$
716

$$
117\}\left\{\begin{array}{l}
16,9 \\
i=9,9
\end{array}\right.
$$

$$
\text { 717: } \sum=3,00
$$

$$
28,2
$$

$$
n=13,4
$$

$$
\begin{aligned}
& y / 2 \\
& y / 4 \\
& y 10,5 \\
& y 10
\end{aligned}
$$

VI Expipitta. Kiasion $=32,3 \quad n=14,8$

$$
\begin{aligned}
& 70 y \\
& 710 \\
& 70 y \\
& 760
\end{aligned}
$$

VII haygion hedu $=39,5 \quad$ Teing.21

$$
\begin{aligned}
& 102 \\
& 70,5 \\
& 700,5 \\
& 702
\end{aligned}
$$

Nibrobopot Letenter 12,
hibrherzal kifäre.


$$
\begin{aligned}
& \frac{\text { Seyp }}{18,8} \\
& 500 \\
& 504 \\
& 504 \\
& 504,5 \\
& 507,5 \\
& 500 \\
& 502,1 \\
& 500 \\
& 500
\end{aligned}
$$

melystan
Y
464
465


yor y gr

$$
\begin{gathered}
580 \\
\text { Tey. } 18 \\
500 \\
500,1 \\
304 \\
50,5 \\
503,5
\end{gathered}
$$

Kififile enets us.

$$
\begin{gathered}
\text { Teyi } 28,5 \\
900,5 \\
000,5 \\
200 \\
301
\end{gathered}
$$



Alethylentromin) a Lyph. 20 hi istelidebois. A sürisigre hasmullowitx a Werst-file tible


$$
\begin{aligned}
& 20^{\circ}-1,000 \\
& 40^{\circ}-1,020 \\
& 60^{\circ}-1,040^{\prime}, 20 \\
& 80^{\circ}-1,060 \\
& 100^{\circ}-1,086 \\
& 120^{\circ}-1,110 \\
& 140^{\circ}-1,135^{\circ} \\
& 160^{\circ}-1,161^{\circ}, 26 \\
& 180^{\circ}-1,187^{\circ}, 28 \\
& 200^{\circ}-1,215 \\
& 220^{\circ}-1,2444^{\circ}
\end{aligned}
$$

arsi wan.

Ar a k kioinmitióara hompsect forvenda
e lunt.

1) Telperation $20^{\circ} \quad \xi=\frac{971}{200}=1,855 \quad u=6,7 \quad \frac{\xi}{4}=0,277$

$$
\frac{a^{\prime}}{\xi^{\prime}}=1,06 \xi^{\prime} \quad \mu=187,46
$$

$$
\begin{gathered}
s_{79}=2,0 \\
((n-1) v)_{20}=((n-1) v)_{79}
\end{gathered}
$$

$$
p=10,57 .
$$

$$
\sigma=0 .
$$

$$
\begin{aligned}
& \begin{array}{l}
a^{2}=3,150 \\
\xi=3,233
\end{array} \\
& \begin{array}{rl}
x & =3,233 \\
4 & 0
\end{array} \\
& \begin{array}{l}
k=91,21 \\
\lambda=4,503
\end{array} \\
& i=20,28
\end{aligned}
$$

$$
\begin{aligned}
& \xi=\frac{239}{200}=1,695 \quad k=6,7 \quad \xi=0,253 \\
& \frac{\varepsilon^{\prime}}{\xi^{\prime}}=1,065 \\
& \mathrm{rag}_{\mathrm{g}}=1,506 \\
& p=144 \\
& \sigma=\frac{60}{760} \cdot \frac{1}{1+64} \frac{611}{770}+99 y \\
& a=1,065.1,605 \frac{1}{1,07 \%}=1,7 \% 5
\end{aligned}
$$

$$
\begin{aligned}
& a^{2}=9,729 \\
& F=4,060 \\
& \mu=86,0 \mathrm{z} \\
& i=4,415 \\
& d^{2}=19,19 \\
& \mu^{2}=79,13 \\
& \begin{array}{l}
a^{2}=3,150 \\
\xi=3,233
\end{array} \\
& \begin{array}{rl}
x & =3,233 \\
4 & 0
\end{array} \\
& \begin{array}{l}
k=91,21 \\
\lambda=4,503
\end{array} \\
& i=20,28
\end{aligned}
$$

$$
\begin{aligned}
& \sigma=\frac{60}{760} \cdot \frac{1}{1+64} \frac{611}{770}+99 y
\end{aligned}
$$

$$
\begin{aligned}
& \left.a=\frac{a^{\prime}}{\xi^{\prime}}\right\} \frac{1}{1+0,000194 \delta_{2}-0,000244 d_{1}} \\
& 1 \rho_{1}=\frac{10}{2} \frac{n_{2}-n}{m_{n i}}=67 \frac{n^{\prime}-n}{m^{\prime}} \\
& 1 \delta_{2}=\frac{\sigma_{2}}{2} \frac{n-n^{\prime}}{m^{\prime}}=960 \frac{n^{\prime} n^{\prime}}{m^{\prime}}
\end{aligned}
$$

$$
\begin{aligned}
& \alpha_{1}=6^{\circ} \quad \alpha_{2}=38^{\circ}=1920^{\circ} \\
& \lambda_{1}=2^{\circ} 15^{\prime}=131^{\prime} \quad \lambda_{2}=78^{\circ}=
\end{aligned}
$$

$$
A=2 \sqrt{3} \quad \xi=\frac{246}{200}=1,230 \quad 4=6,7 \quad \frac{\xi}{4}=0,184
$$

$$
\frac{a^{\prime}}{s^{\prime}}=1,076
$$

$$
d=1,765
$$

$$
n=1,4,6
$$



$$
\begin{aligned}
& l=152,5 \\
& \xi=\frac{290}{200}=1,465 \\
& n=6,7 \quad \frac{\xi}{k}=0,219 \\
& \delta_{152,5}=1,894 \quad h=1,4 \mathrm{Go} \\
& \frac{a}{\xi}=1,070 \\
& p=1310 \\
& a=1,070 \cdot 1465 \frac{1}{1+0,017}=1,547 \quad \sigma_{0} 0,011
\end{aligned}
$$

Septemter 24.
pirflotus ion munk 22 is 2s itimis
aths (Therjar,
hi Them 23

miegras h, Th, 80 , tang. 78,5

$$
\left.\begin{array}{l}
208 \\
036,5 \\
237,1 \\
226,5 \\
206
\end{array}\right\} \quad \begin{aligned}
& \xi=1,685 \quad u= \\
& \frac{\xi}{m}=0,296
\end{aligned}
$$

$$
2,7 h, 120
$$

$$
\begin{aligned}
& \left.\begin{array}{l}
272 \\
271 \\
273 \\
2773 \\
273
\end{array}\right\} \begin{array}{ccc}
120 & \text { teny. } 118 \\
1 & 2724 & \xi=1,362
\end{array} \frac{\xi}{4}=0,239 \\
& 119
\end{aligned}
$$


$\frac{168-166}{164}$ h. Th.

$$
\begin{aligned}
& 161 \\
& 164 \\
& 160 \\
& 165-5,5
\end{aligned} \quad \begin{array}{r}
\text { tup. } 165 \\
\xi=0,812 \\
\frac{\xi}{n}=
\end{array}
$$


50

$$
50-1,66
$$

$$
60-2,27
$$

$$
\begin{aligned}
& 100 \\
& 70-0,05 \\
& 80-3,98
\end{aligned} \text { begamb }
$$

$$
80-3,98
$$

$$
90-5,13
$$

$$
100-6,58
$$

$$
716-8,25
$$

$$
120-10,40
$$

$$
120-12,71
$$

$$
\begin{aligned}
& 140-15142 \\
& 150-1564
\end{aligned}
$$

$$
\begin{aligned}
& 150-18,64 \\
& 160-22,24
\end{aligned}
$$

$$
\begin{aligned}
& 70=26,80 \\
& 170
\end{aligned}
$$

$$
\begin{aligned}
& 190-31,90 \\
& 190-36,90
\end{aligned}
$$

$$
\begin{array}{ll}
171-172^{0} \text { heth. } & \begin{array}{l}
\text { tap. } 16 y \\
137 \\
150,5 \\
151,5 \\
151,0
\end{array} \\
& \frac{\xi}{4}=0,133
\end{array}
$$

h.Th. 105

300
tap. 104

$$
\xi=1,49^{\circ}
$$

h Th. $107 \begin{array}{cc}296 \\ 298\end{array}$
Sept, 25 han
Actonitrid, zo fletes is mit 22 à is than dibs fetinlegitra USD fobley nem tint ol wath heme Tengo, 23 Noth. a fogatios.

$$
\begin{aligned}
& 50 y \\
& 10 y \\
& 504
\end{aligned}
$$



$$
\begin{aligned}
& { }_{4}^{4} 1011120 \text { NTM. } \\
& y_{y / 4}^{4 / 3}>118 \text { N.OS } \\
& \begin{array}{l}
4 / 151118 \\
y / 4
\end{array}
\end{aligned}
$$



$$
\begin{aligned}
& 170^{\circ} \% .12 \\
& \left.\begin{array}{l}
346 \\
342 \\
346 \\
937
\end{array}\right\}, 171,170,5 \\
& \left.\begin{array}{l}
351 \\
346 \\
346 \\
251
\end{array}\right\} 170
\end{aligned}
$$

thrith melyitesine't a tortion" elfatione às igs af gix hecodx yra beillition

$$
\left.\begin{array}{l}
3 \pi \\
34
\end{array}\right) \cdot 160,5, h, T h .
$$

Kitegeders 170 Nith. Lot $2 \pi / i$ in $=7206$

$$
\left.\begin{array}{l}
237 \\
2 \sqrt{3} \\
235 \\
229
\end{array}\right) 229
$$

Lepsement 26.
in neturiots 229 fortal $22^{\circ} \mathrm{y}$ Mita 2922

$$
\begin{array}{r}
\text { Suy } 120 \\
500 \\
500 \\
500
\end{array}
$$

Vis bo kibbunti mor he / crypo hus on Kali'sing her beho à Fmatw" 16,4.

Tems. 27 h. Th.
Gry
$6 \times 4,5$
Vis hifipe tipta elopleng mighti by atged


$$
\begin{aligned}
& \text { Teyo. } 7 \text { y.h. Th. } \\
& \text { 680 } \\
& \text { fro } \\
& \text { bro,s }
\end{aligned}
$$

Tery. 102 hith.
639
buo
640
609

$$
\begin{aligned}
& \text { Tery. } 151-152 \text { 2. Mas } \\
& \begin{array}{l}
598 \\
5995
\end{array} \\
& 598 \\
& 597 \\
& \text { Pene 210-212 dretz. } \\
& 537 \\
& 538 \\
& 536,8)\binom{212}{212} \text { Nith } \\
& \left.\begin{array}{c}
530 \\
528 \\
540
\end{array}\right\} \begin{array}{c}
207 \\
20 \%
\end{array}
\end{aligned}
$$

Aether. iplele 1885 topp.24ilu:
vije, expripetta $2 y^{\circ}$ Celimmà $n=15 \quad \xi=\frac{70 b}{200}$
e Jerint avieinyó pablainal

$$
\begin{array}{ll}
u=11,7 & \xi=\frac{711}{2100} \\
n 10,8 & \xi=\frac{705}{200} \\
n=9,5 & \xi=\frac{009}{200}
\end{array}
$$

$$
\begin{aligned}
& n=15 \quad \xi=3,538 \quad \begin{array}{r}
\xi \\
4
\end{array}=0,205 \quad-\frac{a}{\xi}=1,087 \\
& a=1,074
\end{aligned}
$$

$$
a_{24}=3,876
$$

$$
n=11,7 \quad \xi=3,555 \quad \frac{\xi}{4}=0,204-\frac{a}{\xi}=1,074
$$

$$
\begin{array}{lll}
n=11,7 & \}=3,70, & \xi=3,525
\end{array} \begin{array}{ll}
n=0,326-\frac{\xi}{\xi}=1,083 \\
n=10,8 & \xi-3,400 \\
\xi & \xi=0,67-\frac{a}{\xi}=1,093
\end{array}
$$

$$
\begin{array}{lll}
n=10,8 & \xi=3,03 & \frac{i}{n}=1,67 \\
n=9,5 & \xi=3,490 & \frac{\xi}{n}=0,07-\frac{a}{\xi}=1,099 \\
& \xi=3,0014 & \xi
\end{array}
$$

$$
\begin{array}{lll}
n=9,3 \\
n=18,7 & \xi=3,490 & \frac{\xi}{n}=0,187-\frac{a}{\xi}=1,093 \\
, a
\end{array}
$$

$$
\frac{\xi}{\xi^{\prime}}=\frac{1+\frac{1}{3} \frac{a}{n}}{1+\frac{1}{3} \frac{4}{4} ;}, \quad \begin{array}{lll}
\prime & u^{\prime}=18,7 & \xi^{\prime}=3,49 \\
& n^{\prime}=24 & \xi^{\prime}=?=3,441
\end{array}
$$

heluas

$$
4=24 \quad \xi=3,441 \quad \frac{\xi}{u}=0,143-\frac{q}{\xi}=1,109
$$

erch èrhhiben.

$$
\begin{aligned}
& t=22 \quad \xi=2,041 \quad \frac{\xi}{u}=0,258 \quad \frac{a^{\prime}}{\xi^{\prime}}=1,091 \\
& \begin{array}{ll}
t=78,5 & \xi=1,685 \\
\frac{\xi}{u}=0,296 & \frac{a^{\prime}}{\xi^{\prime}}=x 09 x=1,075 \\
t=118 & \xi=1,362 \\
\frac{\xi}{u}=0,239 & \frac{a^{\prime}}{\xi^{\prime}}=1,081 \\
t=16 \mathrm{~g} & \xi=0,755
\end{array} \quad \frac{\xi^{\prime}}{4}=0,133
\end{aligned}
$$

2 námin üvegorobben vaw 9.627 gr COS.
Ar alvo'vanásiól foefelé méve $0.9875 \mathrm{~m} / \mathrm{m}=0.1 \mathrm{kbe}$.
teha't $98.75 "=10$ "
5 maini üvegciöben man - 4.668 gr . COS.
ite alnóvanásió föfeli núrve $\quad 1.0625 \mathrm{~m} / \mathrm{m}=0.1 \mathrm{kbe}$.
Acha't $106.25 "=10 "$

$\square$

$$
\begin{aligned}
& \left(h+\frac{m_{150}}{2}\right)^{m_{150}}=h_{m_{180}}+\frac{3^{2}{ }^{2}}{2}= \\
& =\frac{2}{h} \frac{m_{1} r_{0}}{b}+\frac{1}{2}\left(\frac{m_{1+r}}{b}\right)^{2} \\
& \frac{h}{a^{2}}=\frac{1}{6} \quad h=\frac{a^{2}}{b} \quad h=100
\end{aligned}
$$

21025

$$
\frac{\operatorname{man}_{0}}{b}=0,14487 \quad()^{2}=0,020,87
$$

289
29.
19
$\frac{19}{719}$


dl


$$
\begin{aligned}
& k \frac{z^{2}-\xi^{2}}{2} d=f(1-\cos \varphi) \|+\frac{4}{\pi} \sin s d s f \\
& z^{2}-\xi^{2}=a^{2}(1-\cos \varphi)+a^{2} \frac{\sin \varphi}{n} d s \sin x \quad a^{2} \int \frac{i}{n} d x \\
& \int \frac{d u}{u \cos s}-\int \cos 8 \cdot \frac{d u}{u} \\
& \frac{\sin h}{n}+\frac{d \lambda}{d a^{2}} \operatorname{an}^{2}=\frac{22}{x^{2}} \\
& \frac{\sin S}{n} \frac{d x}{\operatorname{din} \theta}+d S=\frac{2 z d x}{z^{2} \cos \delta} \\
& -a^{2} \sin y \\
& \frac{\log u}{\cos x}-\int \log u \sin h d x
\end{aligned}
$$

$$
\begin{aligned}
& \frac{n}{6}+\frac{1}{3} \frac{n}{6} \frac{4}{6} / 3=\operatorname{sic} \\
& \begin{array}{c}
\frac{13=100}{Q} \quad S=\operatorname{Sos}^{\sigma} \\
0,0805+0,0068=0,0873 \\
A=0,0872 \quad \geq=0,0872
\end{array} \\
& \begin{array}{c}
\frac{13=100}{Q} \quad S=\operatorname{Sos}^{\sigma} \\
0,0805+0,0068=0,0873 \\
A=0,0872 \quad \geq=0,0872
\end{array} \\
& \begin{array}{c}
\frac{13=100}{Q} \quad S=\operatorname{Sos}^{\sigma} \\
0,0805+0,0068=0,0873 \\
A=0,0872 \quad \geq=0,0872
\end{array} \\
& \begin{array}{l}
0,0272 \\
0,0068
\end{array} \\
& \begin{array}{l}
0,0272 \\
0,0068
\end{array} \\
& \begin{array}{r}
\frac{4070}{0,1080} \\
0,0108 \\
01098 \\
0,00,14.904
\end{array} \\
& \begin{array}{r}
\frac{4070}{0,1080} \\
0,0108 \\
01098 \\
0,00,14.904
\end{array} \\
& \begin{array}{r}
\frac{4070}{0,1080} \\
0,0108 \\
01098 \\
0,00,14.904
\end{array} \\
& =0, z)^{2} \quad 7=0,1706 \\
& \text { 0, } 800 \\
& 0,0805 \\
& \begin{array}{r}
0,00308 \\
64450 \\
245 \\
42090
\end{array} \\
& S=10^{\circ} \\
& b=0,175 \\
& 0,20,0272090 \\
& \begin{array}{r}
0,03726 \\
13796 \\
0,175^{2} 2
\end{array}
\end{aligned}
$$

Gen $22^{\circ} 30^{\prime}=9,965$ by 50

$$
\begin{aligned}
& \text { y9 312006-1 } \\
& \text { 9, } 0687694
\end{aligned}
$$

9,9515709

$$
\begin{aligned}
& 0,9831478-1 \\
& 0,0168522
\end{aligned}
$$

96772242
2,67024
0,28052
$\frac{2,2026}{1683142}$
56884
8410680
564592,5052


0,7071068

$$
\begin{array}{r}
2,2026 \\
0,01856 \\
138156 \\
115108 \\
184208 \\
230086 \\
69078 \\
\hline 0,733516256 \\
0,36676
\end{array}
$$

$-\frac{927875^{5}}{0,21677^{2} 7}$
21677
0,14999
1,4142
$h_{2} \frac{a}{4}=\frac{1}{2} \quad \frac{0,15}{7_{y}, 7_{y 2}^{10}}$
0,18938
0,0656
0,0656
0,0056
0,060

$$
\frac{0,23_{3}^{21^{3}}}{2^{4^{2}}} \frac{2,12100}{-0,70}
$$

$-0,70$
0,1178
$18 / \begin{gathered}0,21,213 \\ 3,2,0,0118 \\ 141 \\ 36\end{gathered}$
$\left.24 / \begin{gathered}1724 \\ \frac{396}{1,3.3} \\ \frac{1,26}{138}\end{gathered} \right\rvert\, 0,0056$

$$
2,3 / 1 \begin{aligned}
& 600 / 25 \\
& 1,40 \\
& 140
\end{aligned}
$$


$s=\sqrt{2} 0,14$ $\begin{array}{cc}\lambda \\ =1 \\ 1 & 5 \\ 1 & 5 \\ 3 & 3\end{array}$
$x$
$\left.\frac{\sqrt{2}}{y \gamma}\right\}^{2}(\underbrace{\left.2+\frac{a^{2}}{2}\right)}$
ruybingoy
$a\left(1+c \frac{a}{r}\right)+\frac{a}{1+c \frac{a}{r}}$
0,
$\sqrt{7,74}$
$\frac{a}{r}$

$$
\begin{aligned}
& +a\left(1-c \frac{a}{r}\right) \\
& \begin{array}{l}
1,15 \\
501,50 / 00,013 \\
\frac{11500}{3500}
\end{array} \\
& \frac{0,21}{0,017} \frac{1,229+0,0027}{62} \\
& 0,0227^{21} \\
& 0,0013
\end{aligned}
$$

$$
\begin{aligned}
u \cdot \cos \phi d s & +m g d n=c u t m \\
d(u \sin \gamma) & =c u d u \\
u \sin h & =c \frac{u^{2}}{2} \\
u_{t}-u_{f} & =s=\frac{c}{2}\left(u_{h}^{2}-u_{f}^{2}\right) \\
u_{k} & =\frac{c}{2} s^{2}+c u_{f} s
\end{aligned}
$$

$$
u_{t}-u_{f}=s=\frac{c}{2}\left(u_{t}^{2}-u_{f}^{2}\right) \quad u_{t}^{2}=n_{f}^{2}+2 u_{f} s+\sigma^{2}
$$

$$
\begin{aligned}
& u_{b}+s=\frac{c}{c} s^{2}+c u_{b} s \\
& \frac{c}{2} s^{2}+\left(c u_{b}-1\right) s-u_{b}=0 \\
& s^{2}+\frac{2\left(u_{6}-1\right)}{c} s-\frac{2}{c} u_{b}=0 \\
& s=-\frac{u_{b}-1}{c} \pm \sqrt{\frac{\left.4 b_{b} b-1\right)^{2}}{c^{2}}+\frac{2}{c}} n_{b} \\
& \operatorname{hn}_{n} u_{b}=\text { mur } \\
& s=\frac{u_{b}-1}{c}=\frac{u_{l}}{2}
\end{aligned}
$$

$$
\begin{aligned}
& \frac{d \theta \tan \phi}{d n}+\frac{\sin \phi}{n}=C=\frac{2 z}{a^{2}} \quad \text { Limpminy } y=\gamma \\
& \frac{2}{b}=\frac{2 n}{a^{2}}=c \text {. } \\
& \text { adn -unt } \mathrm{m}_{\mathrm{m}}^{\mathrm{y}} \mathrm{~b}
\end{aligned}
$$

Hsimiv

$$
\begin{aligned}
& \min h=\frac{c}{2} u^{2}+A \\
& \frac{2}{c} \sin 2=n^{2}+\frac{2 t}{c} \\
& n^{2}-\frac{2}{c}-4 \sin x+\frac{2 t}{8}=0 \\
& u=\frac{\sin h}{c} \pm \sqrt{\frac{\min ^{2}}{c^{2}}-\frac{2 A}{c}} \\
& n=\frac{m^{2}}{c}\left(1+\sqrt{1-\frac{i \Delta t}{\sin ^{2}}}\right) \\
& \frac{d i}{d r} \sin \theta+
\end{aligned}
$$

$$
\begin{aligned}
& 0 \\
& \left.\begin{array}{l}
98,0 \\
38,9
\end{array}\right) 40,6 \quad \begin{array}{l}
98,5 \\
28,9
\end{array}, 40,6 \\
& \begin{array}{l}
95,9,50,6 \\
40,5
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \square \\
& \frac{22}{a^{2}} \\
& 22 \\
& \frac{2 a^{\prime} \sqrt{2} \sin \frac{\gamma}{2}}{a^{\prime 2}}=\frac{2 a \sin \frac{\lambda}{2}}{a^{2}}-\frac{\operatorname{lin} \gamma}{h} \\
& \frac{2 \sqrt{2} \sin }{a^{\prime}} \frac{8}{2}=\frac{1}{6} \\
& a^{\prime}=\frac{2 \sqrt{2} \sin \frac{h}{2}}{\frac{2 \sqrt{2} \min }{2} \frac{8}{2}-\frac{4 n}{n}} \\
& \begin{array}{l}
\frac{22}{a^{\prime 2}}=\frac{1}{b} \\
\frac{2 \sqrt{2} \sin \frac{8}{2}}{a}=\frac{1}{b}+\frac{\sin }{n}
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \frac{2}{a^{1}}=\frac{2}{a}-\frac{1}{4} \\
& a^{\prime}=a \frac{1}{1-\frac{a}{x} \frac{\operatorname{ar} \frac{d}{2}}{\sqrt{2}}} \\
& \frac{2 u-a}{a m}=\frac{2}{a^{1}} \\
& u^{\prime}=2 a \frac{u}{u-a} \\
& \frac{2}{a^{\prime}}=\frac{w}{a^{2}}-\frac{1}{a} \\
& \frac{2}{a^{\prime}}=\frac{22 n-a^{2}}{a^{2} b} \\
& a= \\
& m=a^{1} \sqrt{2}\left(\frac{1}{\sqrt{2}}-i n \frac{8}{2}\right) \\
& a^{\prime}=2 a \frac{a n}{22 u-a^{2}} \\
& \frac{m}{a^{\frac{1}{2}}}=\frac{1}{\sqrt{2}}-\sin \frac{\ell}{2} \quad \sin \frac{\ell}{2}=\frac{1}{\sqrt{2}}\left(1-\frac{m}{a^{3}}\right)
\end{aligned}
$$

$$
\begin{aligned}
& z^{2}=2 \varepsilon^{2} 2 m^{2} \frac{\lambda}{2}+ \\
& \}^{2}=\quad \frac{2-3}{2} \frac{\Sigma^{2}}{2} d u+\right\} e d u \\
& 2+5 \\
& \frac{4 \sqrt{2}-2-3 \sqrt{2}+3}{6} \\
& \frac{\sqrt{2}+1}{6} \\
& 2^{2}-5^{2}= \\
& 2 n k\left(\frac{z^{2}}{2}-\frac{\xi^{2}}{2}\right)-2 \frac{k}{2} \int_{\theta}^{m}(2+\xi) z d n+2 n \alpha(1-\cos \alpha)+2 \alpha \int_{0}^{n}\left(x-\operatorname{m}_{n}\right) \\
& \left.2^{2}-\xi^{2}=2 a^{2} \sin \frac{\delta}{2}+\frac{1}{n} \int z^{2} d n+\frac{1}{u}\right\} \int 2 d u+\frac{a^{2}}{u} \int(h-d u) \\
& \text { menvanor. } \quad \int d-d n=\frac{m}{\sqrt{2}}\left(1-\cos \frac{h}{2}\right) \\
& \frac{m_{3}^{2}}{2}(2 n-1)- \\
& m_{2}^{2}\left(\frac{2 \sqrt{2}-1}{2}-\frac{k_{-1}}{2}\right) \\
& \int z^{2} d n=-\frac{2 m^{2}}{\sqrt{2}}\left(1-\cos \frac{8}{2}\right)+\frac{y}{2} \frac{m^{3}}{\sqrt{2}}\left(1-\cos ^{\circ} \frac{8}{2}\right) \quad \frac{2 \frac{\sqrt{2} m^{3}}{3}\left(1-\frac{1}{2} \frac{1}{\sqrt{2}}\right.}{3 m^{2}} \\
& \frac{m^{2}}{\sqrt{2}}\left(1-\frac{1}{\sqrt{2}}\right) \quad-\frac{m^{3}}{2}(\sqrt{2}-1) \quad \frac{h^{2}}{\frac{h^{2}}{3}}=4 d \\
& \int 2 d n=\frac{x^{2}}{2} \sin \theta-\frac{x}{3} \\
& Z=m \pi \sin \frac{8}{2} \quad d_{2}=\frac{m}{\sqrt{2}} \cos \frac{\lambda}{2} h_{2} \quad d u=\frac{m}{\sqrt{2}} \frac{\cos \frac{\delta}{2} \mu}{\operatorname{tg} \delta} \\
& 2 d n=m^{2} \frac{\sin \frac{l}{2} \cos \frac{h}{2}}{\operatorname{gid}}=\frac{2^{2}}{2} \cos \lambda d \theta \\
& \int 2 d n= \\
& m^{2}+m\left\{=a^{2}+\frac{1}{r} \frac{\sqrt{2}+1}{6} m^{3}+\frac{1}{r} \frac{\left\{m^{2}\right.}{2}+\frac{a^{2}}{r} \frac{m}{2}(\sqrt{2}-1) \quad+\frac{m^{3} \sqrt{2}-1}{2}(\sqrt{2}-1)\right. \\
& \frac{m^{2}}{a^{2}}+2 \frac{m}{a} \frac{\xi}{a}=1+\frac{a+\sqrt{m}}{B} \frac{m}{r} \frac{m^{2}}{a^{2}}+\frac{1}{2} \frac{\xi}{r} \frac{m^{2}}{a^{2}}+\frac{m}{r} \frac{\sqrt{2}-1}{2} \quad m^{\frac{m^{2}}{3}}\left(\frac{2 \sqrt{2}-1-3 \sqrt{2}+0}{2}\right. \\
& +\frac{m^{2}}{3}(2-\sqrt{2} \\
& \frac{m^{2}}{a^{2}}\left(1-\frac{1}{2} \frac{\xi}{r^{2}} \frac{m^{2}}{b^{2}}-\frac{\sqrt{2}+1}{6} \frac{m}{r}\right)+2 \frac{\xi}{a} \frac{m}{a}=1+\frac{m}{r} \frac{\sqrt{2}-1}{2} \\
& \frac{m^{2}}{b^{2}} \cdot \frac{\beta}{2}\left(-\frac{1}{2} \frac{m m}{r} \cdot+2 \frac{m}{b}=1+\frac{m}{r} \frac{\sqrt{2}-1}{2}\right. \\
& \frac{m^{2}}{b^{2}} \frac{\beta}{2}\left(1-\frac{c+\sqrt{2}}{6} \frac{m}{2}\right)-\frac{1}{2} \frac{m}{r} \frac{m}{6}+2 \frac{m}{6}=1+\frac{m}{r} \frac{\sqrt{2}}{2}
\end{aligned}
$$

$$
\begin{aligned}
& z^{2}-\xi^{2}=2 a^{2} \min ^{2} \frac{1}{2}+\frac{1}{u} \int \text { midu }+\frac{2}{\int} \int\left\{m d u+\frac{a^{2}}{u} \int(d x-d u)\right. \\
& m^{2}+m\left\{=a^{2}+\frac{1}{r} \frac{m^{2}-2-\sqrt{2}}{3}+\frac{\varepsilon}{r} \frac{m^{2}}{4}+\frac{a^{2}}{n} m(\sqrt{2}-1\}\right. \\
& \frac{m^{2}}{a^{2}}+2 \frac{m \xi}{a^{2}} \\
& \frac{m^{2}}{a^{2}}+2 \frac{m}{b}=1+\frac{m^{2}}{a^{2}} \frac{m}{r^{2}} \frac{2-\sqrt{2}}{3}+\frac{m}{r} \frac{m}{6}+\frac{m}{r}(\sqrt{2}-1) \\
& c=\frac{2}{2 \sqrt{2}} \frac{(2 \sqrt{2}-1}{2 \sqrt{2}} \\
& \frac{m^{2}}{b^{2}} / \frac{s}{2}\left(1-\frac{m}{r} \frac{2-\sqrt{2}}{3}\right)-\frac{m}{r} \frac{m}{b}+2 \frac{m}{6}=1+\frac{m}{r}(\sqrt{2}-1) \\
& \begin{aligned}
B_{2 l}=1,1795 \\
1,180
\end{aligned} \quad \text { JORE }=1,180 \\
& c=\frac{2 \sqrt{2}-1}{6} \\
& \frac{a^{3}}{3 n} 2 \sqrt{2}-1 \\
& +\frac{a^{4}}{4^{2}} \frac{2 \sqrt{2} v}{6}
\end{aligned}
$$

maing

$$
\begin{aligned}
& m^{2}+2 m h+h^{2}=a^{2}+\frac{a^{3}}{3 n}(2 \sqrt{2}-1)+\frac{a^{4}}{h^{2}} \frac{2 \sqrt{2}-1}{6} \\
& \frac{m^{2}}{a^{2}}+2 \frac{m}{b}+\frac{2}{n}=1+\frac{2 n-1}{3} \sqrt{\frac{2}{n}} \frac{b}{n}+\frac{2 \sqrt{2}-1}{6} \frac{2}{B} \frac{b^{2}}{a^{2}} \\
& \frac{m^{2}}{b^{2}} \frac{1}{2} \\
& \begin{array}{l}
\frac{1,050}{2898} 8
\end{array} \quad \text { dal }=1,2598 \quad \text { yes }= \\
& \hat{c}=\frac{a^{2}}{b^{2}} \frac{b^{2}}{a^{2}} \\
& V_{50}=7.001 \\
& \frac{m}{6}=0,3165 \\
& \frac{x^{2}}{6^{2}}=1,00 \pi \\
& m=a^{2}
\end{aligned}
$$

$$
\beta=100 \quad \frac{m}{6}=0,14487 \quad \frac{m}{r}=0,418 \quad 2,184
$$

$$
\begin{aligned}
& \frac{m^{2}}{6^{2}}=0,0210 \\
& \text { 2,184/ } 1073019458 \\
& \text { 127 } 2640 \\
& \text { 1,05 } \\
& \frac{\frac{10926}{15200}}{177^{2}}
\end{aligned}
$$



$$
\begin{aligned}
& -\frac{1}{10} \frac{9}{\sqrt{2} x} \\
& \frac{2}{\sqrt{2} x}=a^{2} \\
& -\frac{\xi^{2}}{a^{2}} \frac{a}{\sqrt{2-r}} \\
& -\frac{\frac{z}{z^{2}}}{2 \sqrt{2} r^{2}} \xi^{2}-\frac{z}{\sqrt{2} x} a^{2} \xi^{2} z^{2} \\
& -\frac{\xi^{2}}{a^{2}}\left(\frac{z}{2 \sqrt{2} r}+\frac{z}{2 \sqrt{2} r} \frac{a^{2}}{2^{2}}\right) \\
& \frac{5^{2}}{a^{2}} \frac{a}{\sqrt{2} r}\left(\frac{2}{2 a}+\frac{a}{2 z}\right) \\
& \frac{1}{2}\left(1+c \frac{a}{r}\right)+\frac{1}{2\left(1+c \frac{a}{r}\right)} \\
& -\frac{\xi^{2}}{a^{2}} \frac{z}{\sqrt{2} r}-\frac{\xi^{2}}{a^{2}}\left(\frac{a^{2}}{\sqrt{2} r} z\right.
\end{aligned}
$$

$$
\begin{aligned}
& \frac{x}{a}=2,23 \quad q= \\
& \frac{2}{2}=1+x \frac{a}{r} \\
& \frac{2}{1} \frac{, 16 b}{\frac{a}{r}}=x \\
& \begin{array}{r}
166 \\
\begin{array}{r}
122 \\
338 \\
302 \\
0,9652
\end{array}
\end{array} \\
& 201 \\
& \begin{array}{l}
\text { log } \\
\frac{188}{18} 0, y 8 \\
\hline
\end{array} \\
& 20) \\
& 0,13
\end{aligned}
$$



$$
\begin{gathered}
\frac{2 z}{a^{2}}=\frac{1}{r}+\frac{1}{\rho} \\
\frac{1}{\rho}=\frac{22}{a^{2}}-\frac{1}{r} \\
\frac{z}{\rho}=\frac{2 z^{2}}{a^{2}}-\frac{z}{r} \\
\frac{a^{2}}{b^{2}}=\left(\left(\frac{2 z^{2}}{a^{2}}-\frac{2}{r}\right) \frac{m}{r}-\frac{1}{2}\right) \frac{m^{2}}{r^{2}} \\
z=m+\xi \quad \frac{\xi}{a^{2}}=\frac{1}{6} \\
=m+\frac{a^{2}}{b r} \\
z^{2}=m^{2}+\frac{a^{4}}{b^{2}}+2 \frac{m}{b} a^{2} \quad \beta=2 \frac{b^{2}}{a^{2}} \quad \frac{a^{2}}{b^{2}}=\frac{2}{\beta} \\
\frac{z^{2}}{a^{2}}=\frac{m^{2}}{a^{2}}+\frac{a^{2}}{b^{2}}+2 \frac{m}{b}-\frac{z^{2}}{a^{2}}=\frac{m^{2}}{b^{2}} \beta+\frac{4}{\beta}+2 \frac{m}{b} \\
\frac{2}{r^{2}}=\frac{m}{b}=\frac{m}{r}+\frac{a^{2}}{b}+\frac{m}{r}+\frac{2}{\beta} \frac{b}{r} \\
\frac{a^{2}}{b^{2}} \frac{b}{r} \\
\frac{a^{2}}{b^{2}}=\left\{\left(\frac{m^{2}}{b^{2}} \beta+\frac{4}{\beta}+i \frac{m}{b}-\frac{m}{r}-\frac{2}{\beta} \frac{b}{r}\right) \frac{m}{r}-\frac{1}{2}\right\} \frac{m^{2}}{r^{2}}
\end{gathered}
$$

$$
\begin{aligned}
& a^{\prime}=2 a \frac{a n}{2 m-\varepsilon^{2}} \\
& \mu \tan a^{\circ} \sqrt{2} \sin \frac{8}{2} \\
& \lim _{m=\mu^{\prime}}^{\mu^{\prime}}\left(\frac{1}{\sqrt{2}}-\operatorname{tin} \frac{x^{\prime}}{2}\right) \\
& \mu=a \sqrt{2}\left(2 \sin \frac{\theta}{L}-\sin \frac{l_{0}}{2}\right) \\
& 2^{2}-\xi^{2}=2 a^{2} \sin \frac{\alpha}{2}+\frac{4}{n} y \operatorname{da} x^{2} d a+\frac{2}{n} \xi \int m d x \\
& \int \frac{\xi^{2}}{\frac{2}{2}^{2}} d u \\
& \mu \\
& v . \quad \text { f } \\
& \left\{(n-v)+\frac{1}{2}(\mu-)^{2}\right. \\
& \int 2^{2} \operatorname{dn} \operatorname{hug} m x=\int_{\nu}^{n}\left(e^{n}-x\right)^{2} d n+25 \int_{\nu}^{m}\left(n^{n}-v\right)^{2} \\
& \left.=\int_{V}^{\mu} \mu^{2} d u-2 V \int \mu d u+V^{2} \int_{r}^{\mu} d u+2\right\} \int m d u-2 \xi V \int d x \\
& \int_{\nu}^{\mu} \mu^{\mu} d n=-a^{12}=-a^{1^{3}}(\sqrt{2}-1)+\frac{a^{\prime 3}}{3}(2 \sqrt{2}-1)+a^{10} \sqrt{2}\left(1-\cos \frac{8}{2}\right)-\frac{2 \sqrt{2}}{3} a^{\prime 3}\left(1-a^{3} \frac{h^{3}}{2}\right) \\
& \int m=r-u_{0} \\
& \sin \frac{Q_{0}}{2}=\frac{a^{\prime}-m^{\prime}}{a^{\prime} \sqrt{2}} \\
& \int m d n=\frac{a^{2}}{2}\left(1-2 m \lambda_{0}\right) \\
& \text { thदा万 } m=a^{\prime}-a \cdot \sqrt{2} \sin \frac{90_{0}}{2} \\
& a_{\gamma_{0}}^{\prime}=a \frac{2 a u}{2 z u-a^{2}} \\
& \int\left(d_{1}-d_{n}\right)=a^{\prime}(\sqrt{2}-1)-a^{\prime} \sqrt{2}+a \sqrt{2} \cos \frac{\delta_{0}}{2}
\end{aligned}
$$

Syeinar no" henne 6,4 gram.
1 Inye $-1,1 \theta$.
Kopplimen on 1,23 a mpentimiths

- pinter mivin hi timulla.

$$
\frac{206}{200}-\frac{206}{100}-\frac{256}{200}
$$

man"4 yenm an hlas y,rsianio


Gus a


$$
\begin{aligned}
& \text { uls crikn Kipl } \\
& \text { Niplici minios } \\
& \text { 2,98 298 } \\
& \text { fing nin an }
\end{aligned}
$$

bhy aminnin sot kiptizi No.
$\int \begin{aligned} & 11 . \\ & 100,78 \\ & 104,78\end{aligned}$
ainlañ

Millio" itmenco "42-
383
"r2 helis" ítumio": 9 -
beho "xino"

$$
\begin{aligned}
& \text { NO2 a) hith : anno }=14,8 \text { foth merion }\{ \\
& \text { TEy. -0,5 } \\
& \text { arcere yra }=0^{\circ} \\
& \frac{47}{47} \\
& 416 \\
& \text { y/r H/8 Aleo Simin } 1177^{5} \text {. }
\end{aligned}
$$

$\begin{array}{ll}+\sqrt[0]{V_{2}} & \text { b) wo } \\ & \text { ha ahno } 10,0\end{array}$ log. $0^{\circ}$ $\square$ 412 $4 / 2 \quad$ Heso" simin $10 \% 140$

P2 $040=$
h.atine 12,5

$$
4045
$$

yosis

Gusio unime 9\%
$\mathrm{COCl}_{2}$ mintan

$$
\begin{aligned}
& 3.83 \\
& \hline 8
\end{aligned}
$$

Tey. $0^{\circ}$

$$
384
$$

Autzladier
492

Eret, an Sybtemberzoilin. Lelild.

$$
\begin{array}{lll}
t=21^{\circ} & \xi=2,146 & \\
1=107^{\circ} & \xi=1,867 & \text { exchuy expijuthe } 706 \\
1=166^{\circ} & \xi=1,637 & 2 u=13,5 \quad u=6,75 \\
1=230^{\circ} & \xi=1,295 &
\end{array}
$$

erchay expijuth fob $t=2 y^{\circ} \mathrm{mil}$

$166^{\circ} \mathrm{ra}$ \& am .
$200^{\circ}$ re 15 arent then enver.

$$
\begin{array}{ll}
\sigma_{160}=0,007 & \sigma_{1077}=0,002 \\
\sigma_{220}=0,020 &
\end{array}
$$

 letins te the ne'televel $V_{21}=V_{0} 1,02$ a isiong of/n $s_{21}=1,059$

$$
\begin{aligned}
& \sum_{\text {roy }}=101,13 \\
& D_{0}=1,080 \text { Lelet } s_{107}=0,956 \\
& \nu_{160}=\tau_{0} 1 ; 23 \\
& v_{i 20}=\varepsilon_{0} 4,36 \\
& 0,66=0,578 \\
& \mathrm{r}_{220}=0,794
\end{aligned}
$$

fiveisuntaio's.

$$
\begin{aligned}
& n_{107}=1,336 \\
& 3_{1 / 66}=1,308 \\
& n_{220}=1,279
\end{aligned}
$$

a hin, cnition

$$
\begin{aligned}
& a=\frac{a^{\prime}}{\xi^{\prime}}\left\{\frac{1}{1+0,00019 \Delta S_{2}-0,000244 S_{0}}\right. \\
& \Delta \delta_{1}=270 \frac{\mathrm{~m}^{\prime}-n}{\mathrm{man}^{\prime}} \quad \Delta \mathrm{S}_{2}=960 \frac{\mathrm{~m}^{\prime-n^{\prime}}}{\mathrm{m}^{\prime}}
\end{aligned}
$$

$$
\text { Emhar } \mu=2 \times \mathrm{C}_{2} \mathrm{H}_{4} \mathrm{O}_{2}=119_{1} 72
$$



alkhe. wor \&s.e.2
hanis gyarmum cök

hay vemmiso $45^{\circ}$

$$
\begin{aligned}
& 404 \\
& 403,5 \\
& 404,5 \\
& 404,5
\end{aligned} 4,00
$$

Texp, 109,5 h, Th.
ANiugulé $\frac{185}{200} \frac{25}{200}$

$$
\begin{aligned}
& 104,1 \text { 2ahíy mat y4 2yju. } \\
& \begin{array}{l}
385 \\
384110,5 \\
\left.\begin{array}{l}
384 \\
384
\end{array}\right\} 110,5
\end{array} \\
& \begin{array}{l}
331 \\
301
\end{array} 154 \\
& \begin{array}{l}
320,5 \\
200
\end{array} \\
& \left.\begin{array}{l}
390 \\
230,5
\end{array}\right) 155 \\
& \begin{array}{l}
329,5 \\
229
\end{array} \\
& \text { 325, 155 } \\
& \begin{array}{l}
328 \\
\text { د28 }
\end{array} \text {, } 4 \\
& \begin{array}{l}
322,5 \\
32,5
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& 241 \text { ) } 209 \\
& 241 \\
& \text { heive } \\
& 227 \text { ) } 201, \\
& 227 \\
& 227 \text {, } 202 \\
& 227201 \\
& 227 \text {,201 } \\
& 237201,
\end{aligned}
$$

Tinnwo. 22 ikin.
Litines Dlemmancte N.Th. 28,50
lang. 28,5

$$
\begin{aligned}
& 450 \\
& y 50 \\
& y 4 g 5, \\
& y 50
\end{aligned}
$$

mignten 80 3, Th.


I Nulis almero $25 ; 8 \quad u=10,8$
zob
$70 \%$
$70 \%$
707.
$\begin{aligned} & \text { IL Expiguth } \\ & \text { Fos }\end{aligned} n=14,8$
706
7os Sysener 21
Thantie
Thantiye





| . |  | $s_{0}=0,8276$ |  |  | 138 ${ }^{\circ}$ | $159^{\circ}$ | 1680 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathcal{J}$ | $20^{\circ}$ | 450 | $79^{\circ}$ | $100^{\circ}$ |  |  |  |
| $1+\Delta v$ | 1,02ibs | 1,0508 | 1,0944 | liy3l | ,2063 | 1,2504 | 1,3051 |
| $s$ | 0,8100 | 0,9876 | 0,7562 | 0,7239 | 0,6860 | 0,6620 | 0,6341 |
| $\hat{J}=200^{\circ}$ |  |  |  |  |  |  |  |
| $1+\Delta v=1,4762$ |  |  |  |  |  |  |  |
| $D=0,5606$ |  |  |  |  |  |  |  |



$$
\alpha_{1}=9^{\circ}=\alpha_{2}=32^{\circ}=1920^{\prime}
$$

sigten

$$
v_{1}^{\prime}=3^{\circ} 30^{\prime}=210^{\prime}
$$

$$
\mathscr{d}_{2}^{\prime}=78^{\circ}
$$

$$
a=\frac{a^{\prime}}{\xi^{\prime}}\left\{\frac{1}{1+0,00019 \Delta S_{2}-0,00024 \Delta S_{1}} \quad 1 S_{1} \text { ì } \Delta S_{2}\right. \text { parescachene }
$$

$$
u^{\prime}=11,7 \quad \xi^{\prime}=\frac{711}{200}=3,555 \quad \frac{\xi^{\prime}}{u^{\prime}}=0,304 \quad \frac{a^{\prime}}{\xi^{\prime}}=1,073
$$

$$
\begin{array}{lll}
u^{\prime}=13,4 & \xi^{\prime}=\frac{708}{200}=3,540 & \frac{\xi^{\prime}}{h^{\prime}}=0,264 \quad \frac{a^{\prime}}{\xi^{\prime}}=1,078 \\
u^{\prime}=14,8 & \xi^{\prime}=\frac{705}{200}=3,525 & \frac{\xi^{\prime}}{h^{\prime}}=0,238 \quad \frac{q^{\prime}}{\xi^{\prime}}=1,083 \\
u^{\prime}=18,7 & \xi^{\prime}=\frac{700}{200}=3,500 & \frac{\xi^{\prime}}{k^{\prime}}=0,1878
\end{array}
$$

7 anys. F $^{\circ 0} \quad s=\frac{.412}{200}=2,06 \quad k=7,5 \quad \frac{s}{k}=0,275 \quad \frac{a^{\prime}}{\xi^{\prime}}=1,077$ tivesintato $\frac{h-1}{0}$ fromlinal simite $n_{80}=1,338$


$$
a_{18,5}=2,219
$$

Texy. 108,3 $, \xi=\frac{38 \%, 3}{200}=1,922 \quad k=7,5 \frac{\xi}{4}=0,256 \quad \frac{q^{\prime}}{\xi^{\prime}}=1,079$
thin fomblinint $\Delta=0,724 \quad \frac{n-1}{7}$ fromiois $n=1,324$

$$
\begin{aligned}
p=3 \mathrm{al} & =0,004 \\
a_{108,3} & =1,079 \times 1,922 \frac{1}{0,9984}=2,087
\end{aligned}
$$

$$
\begin{aligned}
& n=1,362 \quad \delta=0,81 \quad \sigma=0 \\
& a=2,404
\end{aligned}
$$

$$
t=138
$$

$$
\xi=\frac{349,6}{200}=1,748
$$

$$
1=7,5 \quad \frac{\xi}{4}=0,233 \quad \frac{a^{c}}{\xi^{\prime}}=1,084
$$

Llin formicioval $s_{1,88}=0,656$

$$
n=1,306 \quad p=7 a t \mathrm{~m} .
$$

$$
a=1,748 \times 1,0844 \frac{1}{0,995}=1,904
$$

$$
t=168 \quad \xi=\frac{303}{200}=1,515 \quad 4=7,5 \quad \frac{\xi}{4}=0,202 \quad \frac{q^{\prime}}{\xi^{\prime}}=1,088
$$

this formbival

$$
\begin{aligned}
& 0,0=0,634 \quad n=1,283 \\
& a=1,088 \times 1,515 \frac{1}{0,942}=1,662
\end{aligned}
$$

$$
t=199
$$

$$
\xi=\frac{206,4}{200}=1,182 \quad u=7,5 \quad \frac{\xi}{x}=0,158 \quad \frac{a^{\prime}}{\xi^{\prime}}=1,094
$$

$$
\text { thin } A_{195}=0,563 \quad x=1,252 \quad p=31 \mathrm{arm} . \quad \sigma=0,036
$$

$$
\begin{aligned}
& a=1,094 \times 1,182 \frac{1}{0,987}=1,307 \\
& 45,9
\end{aligned}
$$

$$
\mu=45, g
$$


 antgan pogtan ale $\xi=$ nem $=\frac{705}{2 v 0}$ homen $\frac{z 16}{200}$ (eq ap ither is in ì
 dmpandi's is $a^{2}$ is A nukuch fol citiluts pedy 0,972 vel


Formo xw. xw. 12
Toll, 1/an $0^{\circ} 0,620$


$$
\begin{aligned}
& \text { k.a.. 9.9 } \\
& \text { frotia' 5,00 }
\end{aligned}
$$

$$
\begin{aligned}
& \text { 2. Nhe, 2ik voursmufititian lispuiting } \\
& \begin{array}{c}
\text { Ra: } 14,6 \\
\text { b.á } 11,35
\end{array} \text { ammeniationty } 80 \text { mim }
\end{aligned}
$$

2. Wee Amomialle.

Ms $5098 / 27$
$\frac{188 \%}{10}$

periman.
Gef-manomitered.


e surmat $h=633,8$
Eq ayputior neyora $r=26,25$
a gothith a cminshen $\rho=25,88$
e reit

$$
\hat{F}=h 0^{\prime}(1-k) \rho=11,40
$$

a hat $D^{\prime}=0,001187 \quad 1-k=0,577$

$$
\frac{F^{2}}{2}=2,850
$$


e.ients $t_{2}=982,1$

An equader syana $r=17,14$
a gïrkiket a crioshan $\rho=17,04$ c.unst

$$
2 F=11,53
$$

$$
\frac{\mathcal{F}}{2}=2,882
$$

$\frac{F}{2}$ e hit ritike'täl a hörís $\frac{F}{2}=2,866$
encel semben a'l a s.ten titider $f=2,875$
O II.




$$
A=2,743
$$




 50 millimeter isme'röjühen.
 of ate' so"kir "Nypranoultba leve mitraa, is Iy apn it a vilijito'gi'y buthorikotatom emelluelketote. A forso' Ḧlise'r Entricktas bovirators c caps elforstelatote, én y aho' sropgan hir'ju folfele' Lele alle'tus. Ames krikerime itfpiti-e ap alo' h'g.s whan hoteltipo' likivhijut, gyetar ayy grafirà, nolgáciats.
 sikig ather.
Éztelisct

$$
h=L+6 \cdot \frac{23}{125}
$$

b $\frac{20}{125}$ millimberten, a $\frac{25}{125}$ millimetertiten.

| 235 | 6 | 2 |
| :--- | :--- | :--- |
| 237 | 224 | 647 |
| 205 | 221 | 704 |
| 231 | 218 | 700 |
| 228 | 227 | 700 |
| 208 | 227 |  |
| 240 | 230 | 691 |
| 232 | 212 | 705 |
| 232 | 212 | 705 |
| 208 | 223 |  |
| 237 | 221 | 705 |
| 236 | 220 |  |



$$
\begin{aligned}
& \text { Sfamitar' } \\
& r=21,68 \quad h=7^{41,8} \\
& \text { corrigall agis } \rho=21,42 \\
& \text { Barames } 755,5 \quad t=18^{\circ} \\
& \text { Cosigeth trasm }=753,0
\end{aligned}
$$

$$
\begin{aligned}
& J^{\prime}=0,001202 \\
& s^{\prime}(1-k)=0, \operatorname{arotgot} 6 \\
& 2 \hat{A}=o^{\prime}(1-k) \mathrm{kg}=11,02 \\
& \text { unit } \frac{F}{2}=2,755
\end{aligned}
$$

 ctis

$$
A=2,7^{43}
$$

Espletises Normber soiken', filly'glycerines, fily' orakes deston. Aglyuenins ourat is unt dive

10 mip bil the agi yunker a aydfects.
a hit mothis qualot rind is ekereme.
 myitive hit paishyun sited annal refleyio hipe inat.
 putar, ha of -ythirkits a porgutso Eij lemérére, aqutai' a's
 ushygm mig ois mus of ciflelis iest jè wn mygible, thentego" cistten da iron comex u. concar.e.
Yepines is unt dills.
Danomiar 7 ys Keguerabure $=15^{\circ}$ a ès b $\frac{20}{120}$ millimetrethen.
a $\quad 6 \quad \downarrow$




 istike $\rho^{\prime-e l}$ jelevatoln.


 tiking pintos.
 Masinat is $19^{\circ}$ Coleinait $=0$, 001181 hewnin's $0^{\prime}-0=0,0006814$

Liit $\quad \hat{A}=11,980$

$$
\frac{7}{2}=2,996
$$



$$
a^{2}=5,2510
$$

al awhen ürrizge =1,008 Lait:

$$
7=2,726
$$


 of rainctornas suctathersale.
Iganayon olfotal Dratonict tell mky eidolit, my ygrusone andmiglely verctelt.

IShneles.

 sopparallat bityós ittas, Af adies is,
 siver pollait vilugito gainat mons

 a gamin $x$-nd $A+$ hs'.
 sibm.
 B hater's

$$
A+h s^{\prime}+\frac{2 \mathcal{F}}{\rho^{\prime}}
$$

E hit gain hïi isiange =hs, vapjo

$$
h s^{\prime}+\frac{2 f}{\rho^{\prime}}-\frac{2 f}{\rho}=h s
$$

$$
2 F=\frac{h\left(\rho^{\prime}-s\right)}{\left(\frac{1}{s}-\frac{1}{\rho^{\prime}}\right)}=\frac{h s^{\prime}(1-k)}{\left(\frac{1}{\rho}-\frac{1}{\rho^{\prime}}\right)}
$$


"yganyon yanimés is kimès chet. lengö = Z̈mingitay.
$s^{\prime}=0,0012 y^{3} \frac{6}{760} \frac{1}{1+\alpha t}$ hal th a hormucrilun ymaik jeleli.



$$
2 F=h o^{\prime}(1-k) g
$$

En epothen sioh a flioi At tatrivis bey beviruas".
 hught a hatri's nequatorainas agait $r$ na'jits $k$.

 losimputi meg:
manist he a butoris fanc rinct EE acyuiza sithal s kerciös anns ggenift ne norgate Ama Ufole' ha'k

Jelflicibt a yarién elelra't

$$
=\pi r^{2}\left(A+h\left(s^{\prime}-s\right)+m s\right)
$$

Esunt:

$$
h r \rho-\frac{V}{\pi}+r^{2} m=r^{2} h
$$



$$
2 \pi \lg n t_{n}=\frac{2 \pi}{3} m r^{2}
$$

$$
\operatorname{hr} \rho+\frac{1}{3} x^{2} m=x^{2} h
$$

 sugiren mevityen legabe gedy' $x$ athor.

$$
\begin{aligned}
& \rho=\frac{r^{2}}{m} \text { vgin } \quad \text { m }=\frac{x^{2}}{\rho} \\
& \operatorname{hrg} \rho \neq \frac{1}{3} \frac{r^{4}}{\rho}=r^{2} h \\
& \rho=r-\frac{1}{3} \frac{r^{3}}{k \varphi}=r\left(1-\frac{1}{3} \frac{r}{h} \frac{r}{\rho}\right)
\end{aligned}
$$

2 mind $\frac{r}{\rho}$ hiout $=1$ loysen:

$$
\rho=r\left(1-\frac{1}{3} \frac{r}{\pi}\right)
$$

$$
\begin{aligned}
& 2 \pi r \mathcal{F}+V\left(0-s^{\prime}\right)+\pi r^{2} m\left(s^{\prime}-1\right)=\pi r^{2} h\left(s^{\prime}-0\right) \\
& \therefore \text { mi-1 } \quad 2 F=k\left(0^{\prime}-1\right) \rho
\end{aligned}
$$

$$
\begin{aligned}
& \text { 1) a jogadi's fairingedi" evado'ard }=2 \pi r \mathcal{F} \\
& \text { 2) a gin mhyzéc e rithen }=\sqrt{s} \\
& \text { - hal ve gijtiolgoth. } \\
& \text { 3) K Lïlu" kugo" yonica }=\pi r^{2} t+\pi^{2} m s^{\prime}-V v^{\prime \prime}
\end{aligned}
$$

Fincibloth.
Vilijiti giy insinije nigngima a kugoidky:K

10-10 mylatersis sid hirupd:

$$
\begin{aligned}
& \text { tengi hismanlin ege }=21,9 \mathrm{~A} . \\
& \text { vitajili gay histrathige }=14,25 \mathrm{~s} \text {. } \\
& \text { whit } K=\frac{\sqrt{4,25}^{2}}{1,5^{2}}=\underline{0,4234}
\end{aligned}
$$

2is Hhtaingé
I's Thefíte riayedrédect


hrpa' hellek $\rightarrow$ ini 1 , abls gr.tilunge

Warmetes 756 Feperalars $15^{\circ} \mathrm{C}$. Redulide parmeter 753,6

$$
\begin{aligned}
& \text { is a vilujito giy mlatio rioniege } k=0,4227 \quad \text { i) }
\end{aligned}
$$

1) is 2). aluygin a toincthyot ithen hasioleat

$$
\begin{aligned}
& k=0,423 \\
& 1-k=0,57 Z
\end{aligned}
$$


 Glyurion 10 reif $-j$


$$
\begin{aligned}
& a^{2}=x h\left(1+\frac{1}{5} \frac{x}{4}-\frac{1}{5} \frac{r^{2}}{a^{2}}\right) \text { formbins } \\
& a^{2}=5, G 7
\end{aligned}
$$

a Mypurathe antinge $=1,004$
whit $f=2,875^{\circ}$
 mikor leat ？－n＇l a uodicite atí helersois＇ ditlemy illak mis di．
a tho apozicuiler hipk I millimeto nog－ folete $\frac{20}{190}$ millimeternats．
liè 2）йngriesuèrs sizion illotas． L a hit inng hismis seile hicuintiviangong e a 2 lïtuis selitity simina tuivtu a is Noppeankrogains，willincterckes．
a a firso＇buthoris acepuator imerjje $\frac{20}{190}$ milli： moterkten
b）a butwis sis minnat trives a tillené ＇cilith＇l $\frac{20}{140}$ millimeterthes．
a hatrifs mimainal mayarign ap aso bits hailga＇till

$$
h=l+\frac{20}{100} b+e
$$



 Baromeles $757 \quad t=22^{\circ} \mathrm{C}$ ．reliciect burmetos $=75 \%, 3$



Irmin hiepuct ggarion relat.

firgetinit. Srist frin gharin what Wex neifitue. ogrenime Weipteic enitür $a^{2}=5,305$ a sürnng'fueg 1,026 of aga

$$
A=2,721
$$


 nelis ith worme eptre ripore:


A barmithes mall 7 bl,s
a liogpersuma $20^{\circ} \mathrm{C}$.

$$
\begin{aligned}
s^{\prime}-s & =0,0006982 \\
2 F & =10,83 \\
\frac{F}{2} & =2,708
\end{aligned}
$$

aind Juaten $f=2,72$ dan's $\frac{1}{2}$ vaifatis.
V. Sifteich Oce. 3ikai.

Cruleros what. Incif extraction
to regn i'
valy ays' egitet criker a m...jit aC $), f=2,780$
Jelgich in mux it eipletei worla....
Sanmer y G5
Tenguenura 20


4 alopen $r=27,02 \quad h=610$

$$
\rho=26, g
$$

sulutuati sarm $762,5 \quad z=20$

$$
\begin{aligned}
& 0^{\prime}-0=0,000 \operatorname{bg} 70 \\
& 2 F=11,437 \\
& \frac{F}{2}=2,85 \mathrm{~g}
\end{aligned}
$$

ny a co.bail

$$
f=2,780
$$

hiüinn" huy ye dïsi engion coutson ack noggobl etwiè' muhat mut a gYcerinersel dyjizors.

Fryminiting , Jimizong


$$
\text { 2i whe }=F=2 / \text { ? }
$$

A my hathingin a Antoreihutam


$$
\begin{aligned}
& x^{2} p=\frac{2 \pi n^{2} z}{x} \\
& p=\frac{2 \pi}{x}
\end{aligned}
$$

$$
m^{m} p=F\left(\frac{1}{r}+\frac{1}{n}\right)
$$



inhun rinhis


Apet
y’̀/minnisumis

Sth hier किtanist ar hoivis
Q Man lo kiofle

Qeha rus sin saz sugut sutyor k
Nowns. Aa but

$$
\begin{aligned}
& \text { की lut } \\
& \text { Si 6: } x+\frac{2 \pi}{x}-h s^{\prime}=h-h s+\frac{2 \pi}{x^{\prime}} \\
& 2 f\left(\frac{1}{x 1}-\frac{1}{x}\right)=h s\left(1-\frac{1}{x}\right)=h s(1-k)
\end{aligned}
$$

> mountion meme somintar
uns hen
$k=$

$$
z=a \sqrt{2} 4 \frac{1}{2}\left(1-\frac{a}{3 \pi} x-2 x\right)
$$



(6ache

$\square$
$\frac{2 F}{8}$ ath are

$$
\frac{2 F}{T}=
$$


rappan oldar állansjò


$$
\begin{aligned}
& \text { Acso' a végón } h=22,54 \mathrm{~m} \cdot \mathrm{~m} . \\
& \text { Acro' le végén } h=21,07 \mathrm{mmm} . \\
& \text { Zirépértók } \quad h=22,28
\end{aligned}
$$

$$
\begin{aligned}
& \text { A cso'sugara a vijón 0, v5gr } \\
& \text { b vojén 0, } 2576 \\
&=0,259 \mathrm{~m} \cdot \mathrm{~mm}
\end{aligned}
$$

$\qquad$
formina.
$A=\frac{a^{2}}{P}-\frac{P}{a}+0,129 \frac{R^{2}}{a^{2}}$
a hivistitioley 2,148
frousersablas 2,370
 $\frac{\text { Ken } 0,}{\frac{20}{98,5}}$ Hermmiter 20 fins glycenies delas.

h. Comesyllor lete
Comme biv.i) 160 , 10028 2
Grrmartos 3165 144 23531



Anme wafo $\ell / 1>{ }^{5}$
158
181
rimp
$r=18,92 \quad 6=33 \quad e=332$
$h=816 \quad \rho=18,77 \quad \rho h=15316$
IT nopot 4,5,6,7tat ara Yentelí

$$
1=767 \rho=20,50 \quad \rho \underline{s=15724 \text { ebois } 2 \overparen{F}=10,97} \text { and } f=2,740
$$

III mpant 8,9

$$
\begin{aligned}
& r=21,48 \quad 6=40 \quad e=497
\end{aligned}
$$

$$
\begin{aligned}
& r=4,1866=41 \quad e=470 \\
& h=\operatorname{bog} 3 \quad \rho=21,96 \quad \rho h=15000 \\
& \begin{array}{l}
\quad \rho=21,96 \quad \rho h=15000 \\
\text { Gationtit }=764 \quad l=20 \quad 0^{\prime}-0=0,0006982
\end{array}
\end{aligned}
$$



$$
\begin{aligned}
& \frac{25}{951} \\
& \text { bannmi XGS } \\
& \left\{\begin{array}{l}
1=880
\end{array}\right.
\end{aligned}
$$

retstinct sarm $=762,5$ thys" Lismize 0,001208

$$
\begin{gathered}
\rho^{\prime}-0=0,000 b y 70 \\
2 F=11,437 \\
\neq 2,859 \\
\text { costail } p=2,780
\end{gathered}
$$

Renaistes


$$
\begin{aligned}
& \rho=20,60 \\
& D^{\prime}-2=0, \operatorname{arobg} 82 \\
& h=752 \\
& \text { evbit } F F=10,83 \\
& f=2,71 \\
& \text { crochit } f=2,72
\end{aligned}
$$




 viltyon inltas.


Reijpltelt illenstos ofor hos mérillete zatole vecervior fitiol cliom noygeonbubvi's iltat. An warbuturis gitares -yornaidele A oे b àkizwhen miges binathe a magaing hiviluibúg
 " b a hainer yo pan byitte. "p a belio"gman' A hefota. " $p$ ' a kelo o"gmós os hegretter "Vr at dengo kifigata Atifutten, v amnar berfogh $A$ Aguitm s a lengöfoingo, dele or a híg engwa Atgutsen. r'a Laga syave os Luguthen akho:

$$
\begin{aligned}
& p=b+\frac{2 F}{r} \quad r^{\prime}=b-h s+\frac{2 F}{r^{\prime}} \\
& \text { ande } v p=(V+r) p^{\prime} \\
& \text { whis } \\
& V\left(b+\frac{2 F}{r}\right)=(V+r)\left(b-h s+\frac{2 F}{r^{\prime}}\right) \\
& V \frac{F F}{r}=-v h s+V \frac{F}{r^{\prime}}+v b-v h+v \frac{2 F}{r^{\prime}} \\
& \frac{2 F}{r}-\frac{2 F}{r^{\prime}}\left(1+\frac{r}{v}\right)=-h s\left(1+\frac{v}{v}\right)+\frac{v}{v} b
\end{aligned}
$$



Kusituta \&u. 2 "un"
gyyurive-alhas.

farmitho Comey the 145 305
Therm 21 dquximitity $150 \quad 350$

$$
\rho=r\left(1-\frac{5 r}{n}\right)=18,71
$$

Gubleros Moak. Destamiefl

$$
h=1098^{212} 1202
$$

$$
\text { Larmeler }=760
$$

$$
\text { Thermores }=21
$$

家

$$
\begin{aligned}
& \frac{100}{33} \\
& \text { Thip } 198 \quad 186 \\
& 45,54 \mathrm{~mm} . \quad 12,78 \\
& r=22,77 \quad h=788,8 \\
& \rho=22,54 \quad 1-k=0,572 \\
& V F=12,16 \text { hays innige }=0,0072006 \\
& l=3,079 \quad \text { sinhisfor } 2,726
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{llll}
\frac{100}{20} & \begin{array}{ccc}
162 & 145 & 218 \\
& 166 & 150 \\
\text { hige } & 164 & 148 \\
11 & 336
\end{array} &
\end{array} \\
& 27,72 \mathrm{~m} \cdot \mathrm{~h} .34,0 \mathrm{cy} \\
& r=18,86 \quad h=875
\end{aligned}
$$


Arogyen+und at. a jainct hisitin,

$$
\begin{aligned}
& \delta_{1}=45^{\circ} \\
& \delta_{2}=12^{\circ} 37^{\prime}
\end{aligned}
$$



rexprandses Janboì menis anval qgärie Denges maynh sugare $x=26$ mithmets

$$
\begin{gathered}
\text { Kit wih Yivalu } \\
\text { e } \begin{array}{c}
37,186 \\
23 \\
30,5 \\
45 \\
45 \\
59,185,5 \\
45 \\
70 \\
70 \\
56,5 \\
56,5,186,5 \\
70,5 \\
74,187 \\
G 1
\end{array}
\end{gathered}
$$

$$
\begin{aligned}
& \begin{array}{l}
62,5,185,5 \\
78
\end{array} \\
& \frac{87}{88}, 187 \\
& 66,5,185,5 \text {, } 1,026 \\
& 81 \quad \therefore a=2,308 \\
& \begin{array}{l}
84 \\
70
\end{array}, 186 \quad \neq 2,805 \\
& \text { Mirje' } 186,05 \\
& z_{2}-z_{1}=0,93025 \\
& \text { a Mandés 2ürnize }
\end{aligned}
$$


a 447,64
6440,64
a 447,48
c.74,14
d 72,02
よ 18
< 18
d 71,20
c 13,20
6 442,45
a 446,95

Apeipeter heis to hikfpernd a hovries hexkesièe wtan vée 15 pernel apution.

4 is Antons


$$
\begin{aligned}
& a=427,52 \\
& b \quad 403,84 \\
& a \quad 407,02 \\
& a \quad 74,42 \\
& d \quad 71,22 \\
& L=18
\end{aligned}
$$

5is downois
a 465,42
b 455,20
a $461,8 \mathrm{q}$
b 455,04
c 72,14
d 71,34
$\mathcal{L}=14$

Thermants. $22^{\circ}$ bempieninize $=0,001186$

$$
1-s^{\prime}=0,0006845 \quad \log \left(0-0^{\prime}\right)=0,435417-4
$$



 mislegites legisettel.



15 pernel thrits verta 1,1474 )

$$
1 \mathrm{mals} \text { peral hatt matr } \frac{1,14715}{1,177 \mathrm{gr} .}
$$

Aarander 756 Tengentara $18^{\circ} \mathrm{C}$.


$$
=0,0012008
$$

a gin atauk intinge $=0,0005084$
a vilugit" sì rehatio sünigge $=0,4227$

$$
\frac{25}{127}
$$

1) $\left.\begin{array}{l}237 \\ 235 \\ 221\end{array}\right\}$ anstitat 220 , hedd Jou, is filfoté
2) 231 218) anvertol 2/3
3) $\left.\begin{array}{ll}238 & 22 z \\ 238 & 227\end{array}\right\} \quad$ a,tultar 217
4) $\left.\begin{array}{ll}240 & 226 \\ 22 & 220\end{array}\right)$ ainlacki 270
5) 240 as leerti 226
6) 202

212
anlactal 212
$\begin{array}{ll}\text { 7) } 202 & 212 \\ \text { his } 236 & \text { anj } 2 \text { 208,5 } \\ & \frac{20}{125}\end{array}$
nフo zr 212
a 9) hiridetivet
höッ


Gorrgule ayis $\rho=21,44$
myzaniz $=7^{35,8}$
2F $=10,942$
$A=2,720$
Cso "bat jucting

$$
y=2,743
$$

$8\left\{\begin{array}{lll}238 & 223 & 221 \\ 207 & \text { anllateni } & 212 \\ 206 & 220 & \end{array}\right.$
$9\left\{\begin{array}{lll}225 & 208 & 20 \\ 220 & 20 & \text { anctai zas }\end{array}\right.$
$10\left\{\begin{array}{lll}208 & 225 \\ 228 & 225\end{array} \quad\right.$ anctal lof 215 $\mid$
vilysto giv manimige 0,420 $(A-9)=0,000 b y 36$
Lermonite, 18 Bromiter 755,5
Cerrigigite Dassm. 753, 3
Enteltal a foho" mrrjuivilt iing inkig g17
ozgur $J_{\text {wia }}=2137=21,39$

$$
706,3
$$

Comigüthsyai $=21,13$

$$
2 F=\left(3^{\prime}-1\right) \rho h=10,791
$$

Chenser 1884 Nron 20 .



| $\frac{1}{20}$ | $l$ |
| :--- | :---: |
| $\frac{20}{120}$ minmana. | miknituch |
| 257 | 297 |
| 252 | 290 |
| 240 | 297 |
| 245 | 280 |
| 245 |  |
| 246 | 305 |
| 256 | 318 |
| 255 | 370 |
| 246 | 318 |
| 242 | 285 |
| 256 | 200 |
| 246 | 305 |

Dilutan' bernuaryys - Therromeerly

Surnize
regyantics
1,008


Espletich a sjì-ly' menometarnal

$$
1889 \text { Nomenter soide'. }
$$

Vas 10 eipleter' myjgetelve muk jo' of of a waid of aho' litg. poriginath ... tathor he.

$$
\begin{aligned}
& r \text { a bubvi's aypotini not regis } \\
& \rho \text { a gorliitet a butais cmina'e, }
\end{aligned}
$$


minil 4722,5


$s^{\prime}-v=0,577 \times 0,0011 n=0,0006814$
$2 F=11,983$
$2 \mathcal{F}=24,34 \times 72,5 \times 0^{\prime}-0$

$$
\frac{\begin{array}{c}
5098 \\
2545
\end{array}}{\begin{array}{c}
3159 \\
92
\end{array} \frac{2549}{2517}}
$$


e. $\left.\begin{array}{c}12,5 \\ 6,5\end{array}\right), 106$


105,4

$$
\begin{array}{ll}
8,105 & 20 \\
12,100 \\
2,106 & 28 \\
\binom{8}{2} 106
\end{array}
$$

$$
\begin{aligned}
& y \\
& g
\end{aligned} \cos
$$

$$
97,107
$$

(ct vizi / spangre viasselurua vè


$$
\begin{array}{lll}
62 \\
60,5
\end{array} 98,5 \begin{array}{ll}
28 & 25 \\
25 & 55,5
\end{array} 197.5
$$

(Breje)

$$
\begin{aligned}
& \text { kOAXVYIzRA } \\
& \text { xonvisat } \\
& \frac{4258,0}{12}= \\
& 35483 \\
& \begin{array}{ll}
80,5,256 & 15,1 \\
26,5 & 67,5
\end{array} \\
& \begin{array}{lll}
20, & 25 & 62 \\
75 & 10
\end{array} \\
& \text { 77,5, } 555,5 \\
& \begin{array}{l}
26 \\
70
\end{array}, 556 \\
& \begin{array}{ll}
12 ; \\
66 & 25 \\
67 \\
8
\end{array}, 253
\end{aligned}
$$

h 70, 056,5
e $70,5^{16} 334,5$

$$
6,5,356,5^{6}
$$

(It véje) (spayolvianits vés)

$$
\begin{aligned}
& \text { ( } \begin{array}{l}
10,5,5 \\
6,5
\end{array}, 256 \\
& \left.\begin{array}{ll}
7 \prime \\
29
\end{array}\right) \\
& 21 \\
& \begin{array}{l}
6, \\
3 \\
3
\end{array}, 2 \\
& \text { 66,5 256,5 } \\
& \text { 7, 2) 25\% } \\
& \left.\begin{array}{l}
7,5, \\
60,5
\end{array}\right) \\
& \begin{array}{l}
68 \\
26 \\
\text {, }
\end{array}, 48 \\
& \left.\begin{array}{l}
17 \\
76
\end{array}\right) 259 \\
& \text { Go, } 0,5 \\
& \text { 2, 5; , 64, } 5 \\
& 701359
\end{aligned}
$$

## $\frac{19}{7!}$

$$
\begin{aligned}
\frac{1296}{12} & =358,0 \\
& =35
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{l}
3580 \\
354,87
\end{array} \\
& 256,42
\end{aligned}
$$

C'
Eopleticha sin-ey 1884 Nomenter goidé.'.

In 10 eipleter' myjelelve muk jo" of ay a wasil of aho' lìta, portinank atinathor ha
$r$ a. bubovi's ayoutivia not rejis.
$S$ a gorkistet a butris cmina'c.
a a magarin' a vij jontes lemetit a buthi's


$\left.\begin{array}{c|c}2 & 2 \\ 4 & 4 \\ 5 & 5 \\ \{1 & 3 \\ \left\{\begin{array}{l}3 \\ 6\end{array}\right. & 6 \\ 17 & 8 \\ 18 & 7\end{array}\right\}$
$28.1,5$

$$
\frac{y_{01} 1}{\frac{2}{2}, 4,4, y_{0} / 2} \begin{aligned}
& 2,003 \\
& 24 y_{0}
\end{aligned}
$$

339

Daramito $y_{5}$ tiono 19


$$
\begin{aligned}
& \text { aji } \frac{d^{\prime}}{j^{\prime}}=0,423 \quad 0^{\prime}=0,001184 \\
& \text { "府 } \frac{0}{01}=0,423 \quad 0^{\prime}=0,007187 \\
& s^{\prime}-s=0,577 \times 0,00110=0,0006814 \\
& 2 F=11,983 \\
& A=2,996 \\
& 2 \mathscr{F}=24,34 \times 722,5 \times 0^{1}-1
\end{aligned}
$$

tinco
Khip 24,34

Miveilek 1884 None ber 18 ikain.
Slappan-temy furïtes ègeind myhatimuàta a lemgö-
Filagitógin

A CCC cso" fay tete titte vilagitogind

ferq lilisimethen raypont lent if cinilus
 ehossal lebugiona, alear foleth hive meluso ${ }^{\circ}$ tuboriés vany ghen sih lemes.
A bukwris projivialua shipai a mérets lonipue. A hipen ene millineter ingtotete $\frac{22}{140}=0,1571$ millimeterms.


 a a halmís àmiröje 6 csincinct $y$ ümg libais rictivi'r víló
E ap aho sith hny ithen a Hitiver side alate.
 lin coltiö́n.
10-10 m...gha lánená forl
a lengo"liximentiri igje $=21,9 \mathrm{sec}$.



I 20 " cinteti, 2 2er.

$$
h=578 \text { millincter. }
$$



IIth ripteiens nor.


I20 Nànstas' a promian formula Ahivinin igapatióa
$\begin{aligned} \text { Af } 120^{\prime \prime} \text { hidectethen a jüpotops magaije } & =578+6+49,83=633,83 \\ & =946+6,5+29,64\end{aligned}$

$120^{\circ}$ hueertithen of "'tinio" $=50,21 \mathrm{~m} . \mathrm{m}$.
2ih "... $=32,79 \mathrm{~mm}$.
$h$ Kit ívirò viforga $=\cdots .=\underline{\underline{1,531}}$

snythaturins cition.


G vio" a ujain $h=21,54 \mathrm{~m} . .$.
If ngin $h=21,04 \mathrm{~m} . \mathrm{m}$.
höcip $\quad h=21,28$

$$
\begin{array}{r}
\text { A no"dngen quaí } 0,2545 \\
\text { tingin } 0,2574 \\
\text { hoinj or }=0,25 y
\end{array}
$$

Amula

$$
h=\frac{a^{2}}{x^{2}}-\frac{x}{\partial}+0,129 \frac{p^{3}}{a^{2}}
$$

a dorma istibs 2,248
4 pentoraticios $=2,370$
$e$ sume $a^{2}=5,6,7$
a -uypomolest sinizije $=1,024$
a wat $f=2,875$

