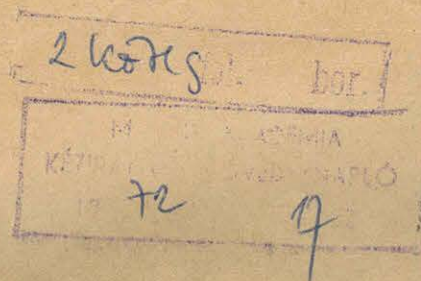


Ms 5105/15-16.

Eötvös L. niszeketi jesszálbei
Fizadérol felorani ferultbeje
Törel'muntalo'



No 5105/15

Poisson formula.

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$\beta = 2 \frac{b^2}{a^2}$ $a^2 = b$ $\beta = \frac{b^2}{3}$

$b = \sqrt{3\beta}$

$\beta = 100$	$b = \sqrt{300} = 17,3205$	$u = 5,4812$	$b' = 18,322$
$\beta = 96$	$b = \sqrt{288} = 16,9706$	$u = 5,4423$	$b' =$
$\beta = 85$	$b = \sqrt{255} = 15,9687$	$u = 5,3265$	$b' =$
$\beta = 75$	$b = \sqrt{225} = 15,0000$	$u = 5,2072$	$b' =$
$\beta = 65$	$b = \sqrt{195} = 13,9642$	$u = 5,0713$	$b' = 14,939$
$\beta = 56$	$b = \sqrt{168} = 12,9615$	$u = 4,9295$	$b' =$
$\beta = 48$	$b = \sqrt{144} = 12,0000$	$u = 4,7835$	$b' = 12,962$
$\beta = 40$	$b = \sqrt{120} = 10,9545$	$u = \frac{4,6111}{4,4111}$	$b' = \frac{11,519}{11,913}$
$\beta = 33$	$b = \sqrt{99} = 9,9499$	$u = 4,4299$	$b' =$
$\beta = 27$	$b = \sqrt{81} = 9,0000$	$u = 4,2417$	$b' =$
$\beta = 21$	$b = \sqrt{63} = 7,9373$	$u = 4,0074$	$b' = 8,9456$

$b' = a \cdot 0,28634 \sqrt{\frac{a}{u + a\sqrt{2}-1}} e^{\frac{\sqrt{2}}{2}(u + a\sqrt{2}-1)}$

$a = \sqrt{b}$ ei u whel

$b' = \frac{1,09773}{\sqrt{u + 1,01458}} e^{0,58577 + 0,57735 u}$

$\log b' = 0,0404954 + (0,58577 + 0,57735 u) 0,4343 - \frac{1}{2} \log(u + 1,01458)$

$\log 0,57735 = 0,764394 - 1$

$b'' = \frac{a^2}{h} = \frac{b}{h} = \frac{b}{u(1 + \frac{1}{3} \frac{a^2}{u})}$

$\beta = 16$	$b = \sqrt{48} = 6,9282$	$u = 3,7565$	$b'' = 6,7016$
$\beta = 12$	$b = \sqrt{36} = 6,0000$	$u = 3,4945$	$b'' = 5,8652$
$\beta = 8$	$b = \sqrt{24} = 4,8990$	$u = 3,1328$	$b'' = 4,8409$
$\beta = 5$	$b = \sqrt{15} = 3,8730$	$u = 2,7282$	$b'' = 3,8563$
$\beta = 3$	$b = \sqrt{9} = 3,0000$	$u = 2,3122$	$b'' = 2,9895$
$\beta = 1,5$	$b = \sqrt{4,5} = 2,12132$	$u = 1,7997$	$b'' = 2,1235$
$\beta = 0,5$	$b = \sqrt{1,5} = 1,22474$	$u = \frac{1,1425}{1,0470}$	$b'' = 1,2253$

$m = \frac{u^2}{a^2} = u \left(\frac{2\sqrt{2}}{1 + \frac{1}{3} \frac{a^2}{u}} \right)$

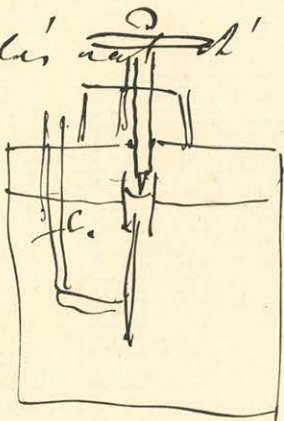
Puhtori emäksen nivaannayräsägius neyhtöröyisä.

Neyhtöröyösh hij neyysan glycerin oldathan.

A spherometrinä heallitua többä ~~siirabulwöshuivisä A)~~
 Arutan a nivaansa. B)

A nivaan chonduläsäre cis Kati val inkluu.

A ällis ~~ant d'~~ Kallusit B'



esiäim a us el jöyöthito vull.

B allasit etolawa spherometrinä
 unca alöt.

Sept. 24

1^o ~~20~~ Atomi röje =
 Spherometrinä.

A) $\frac{370}{2000} = 0,185$
 B) $\frac{450}{2000} = 0,225$

$\frac{450}{2000} = 0,225$

$\frac{400}{2000} = 0,200$

~~0,165~~

$\xi = 0,175$

0,265

Kati

A') } 0,02 kappi
 B') }

A') } 0,05 kappi
 B') }

A') } 0,05
 B') }

1) Tesö Atomi röje = 10,5 m m

Spher

A) $\frac{370}{2000} = 0,1850$
 B) $\frac{450}{2000} = 0,2250$

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 KÖNYVTÄRA

$\xi = 0,280$

Kati

A') $\frac{19}{200} = 0,095$ kappi kappi
 B') $\frac{19}{200} = 0,095$ kappi kappi

2) A) $\frac{230}{2000} = 0,115$
 B) $\frac{230}{2000} = 0,115$

A') $\frac{15}{200} = 0,075$
 B') $\frac{15}{200} = 0,075$

$\xi = 0,270$

3) A) $\frac{280}{2000} = 0,140$
 B) $\frac{280}{2000} = 0,140$

A') $\frac{16}{200} = 0,08$
 B') $\frac{16}{200} = 0,08$

$\xi = 0,270$

4

Speri

$$\left. \begin{array}{l} A \\ B \end{array} \right\} \frac{370}{2000} = 0,185$$

Kuti

$$\left. \begin{array}{l} A' \\ B' \end{array} \right\} \frac{17}{200} = 0,085$$

$$\xi = 0,270$$

2 cró Abméréje = 9 mm

1) $\left. \begin{array}{l} A \\ B \end{array} \right\} \frac{720}{2000} = 0,36$

$\left. \begin{array}{l} A' \\ B' \end{array} \right\} \frac{14}{200} = 0,07$

$$\xi = 0,43$$

2) $\left. \begin{array}{l} A \\ B \end{array} \right\} \frac{710}{2000} = 0,355$

$\left. \begin{array}{l} A' \\ B' \end{array} \right\} \frac{12}{200} = 0,06$

$$\xi = 0,415$$

3) $\left. \begin{array}{l} A \\ B \end{array} \right\} \frac{710}{2000} = 0,355$

$\left. \begin{array}{l} A' \\ B' \end{array} \right\} \frac{11}{200} = 0,055$

$$\xi = 0,41$$

3 cró Abméréje 14 mm

$\left. \begin{array}{l} A \\ B \end{array} \right\} \frac{120}{2000} = 0,06$

$\left. \begin{array}{l} A' \\ B' \end{array} \right\} 0$

$$\xi = 0,06$$

Megjegyzés: a szelvény 25 db-ra osztott.

$$\frac{195}{2000} = 0,0975$$

$$\frac{160}{2000} = 0,080$$

Megjegyzés: a szelvény 25 db-ra osztott.

$$\frac{175}{2000} = 0,0875$$

A szelvény a szelvényre osztott.

A szegyművelés és alkalmazásai.

Méris cső sugarmű 20 mm. a tömítő peremén 2,585 mm.
Képz. Elm.

3 cső átmérője 14 mm.



$$A) \frac{75}{2000} = 0,0375$$

$$B) \frac{1125}{1000} = 0,1125$$

$$A' = \frac{65}{200} = 0,075$$

$$A) \frac{145}{2000} = 0,0725$$

$$B) \frac{3}{0,1025} = 0,1025$$

$$A') \frac{6}{200} = 0,030$$

$$B') \frac{3}{200} = 0,015$$

$$A) \frac{180}{2000} = 0,09$$

$$B) \frac{115}{1000} = 0,115$$

$$A') \frac{5}{200} = 0,025$$

$$B') \frac{3}{200} = 0,015$$

4 cső átmérője = 16,5

$$A) \frac{55}{1000} = 0,055$$

$$B) \frac{115}{1000} = 0,115$$

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$$a = \frac{290}{1 + 0,305 \frac{a}{u} + \frac{1}{9} \frac{a^2}{u^2}}$$

$$\frac{A}{B} = \frac{50}{1000} = 0,050$$

Formula szerint $a_1 = 2,585$
 $a_2 = 2,38$
 $a_m = \underline{a} = 2,400$

A Poisson fele formula

$$\mu = \frac{a(1+\sqrt{2})}{4\sqrt{\pi}\sqrt{2}} \cdot \sqrt{\frac{a}{T+a(\sqrt{2}-1)}} e^{\frac{\sqrt{2}}{a} \{T+a(\sqrt{2}-1)\}}$$

Ezért a) Tére $T=4,5$ $a=2,4$ hely $\mu = 6,7795$ Dugó 11,60

Valószínűleg $\xi = 0,42, 0,415, 0,41$ Körül $\xi = 0,42$ Tere $\xi = \frac{a^2}{\xi}$ hely $\mu = 13,7$

Kezdetben

$a=2,4$ el.
 Átmérő = 9 mm. $\xi = 0,4981$

ésdél $\xi' = 0,428$

Átmérő 14

$\xi = 0,1093$

ésdél $\xi' = 0,110$

Átmérő 16,5

Kezdetben $\xi = 0,0563$

ésdél $\xi' = 0,053$

Átmérő 10,5

Kezdetben $\xi = 0,3458$

ésdél $\xi' = 0,273$

16,75
16,14

$$\mu = a \cdot 0,28634 \sqrt{\frac{a}{T+d(\sqrt{2}-1)}} e^{\frac{\sqrt{2}}{2} \{T+d(\sqrt{2}-1)\}} \quad a = 2,467$$

$$T = 4,595$$

$$\underline{\underline{\mu = 11,7156}}$$

$$\mu = \frac{t}{t_0 \varepsilon} \left(1 + \frac{1}{4} \frac{t^2}{a^2}\right)$$

$$t = 0,7212$$

$$a = 2,467$$

$$\varepsilon = \frac{\varphi'}{2}$$

$$L t_0 \varphi + L' t_0 \varphi' = u$$

$$L t_0 \varphi + L' t_0 \varphi \frac{t_0 \varphi'}{t_0 \varphi} = u$$

$$L t_0 \varphi + L' \frac{t_0 \varphi}{n} = u$$

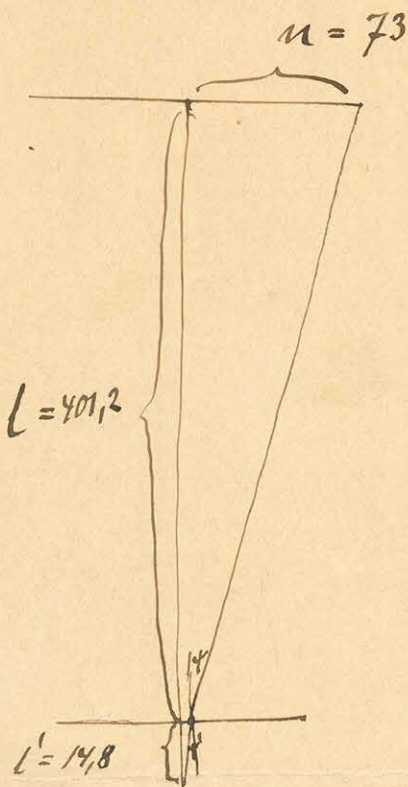
$$t_0 \varphi = \frac{u}{L + \frac{L'}{n}}$$

$$n = 1,346$$

$$\sin \varphi' = \frac{\sin \varphi}{n}$$

$$\varepsilon = \frac{\varphi'}{2}$$

$$\underline{\underline{\varepsilon = 30^\circ 43' 20''}}$$



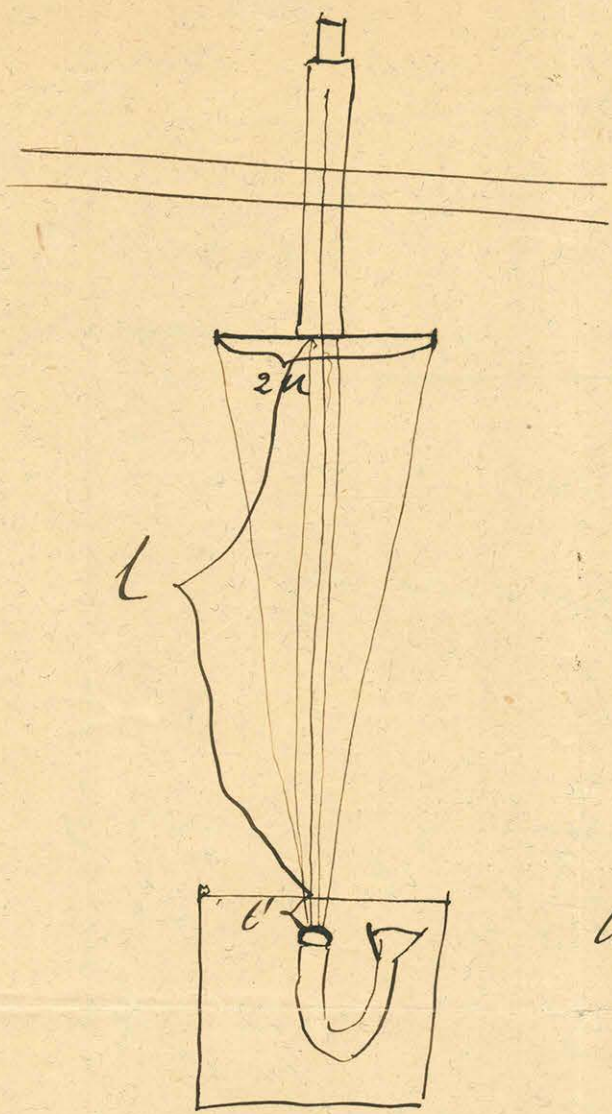
$$\underline{\underline{\mu = 11,323}}$$

$$\rho = \frac{u}{f}$$

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$$\mu = 15,07 + \left(1 + \frac{1}{4} \frac{L^2}{a^2}\right)$$

Könyvjelű csappantyúterület



h felhívás hona t.

Mérés 2 t-re

713
 725
 715
 722
 717
 724
 722
 723
 722
 724

 721,2 ¹/₅₀₀ m.m.
 t = 0,7212

2u = 146 m.m.

A csappantyú almirója 2T
 5 mérésből 2T ~~4595~~
 2T = 4595

l felmérés 638,68
 almirója 237,44) 401,24

l' felmérés 227,84
 almirója 222,66) ~~4,98~~ 14,8

Ugyanaz

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l' } 222,06
 227,00) ~~4,97~~ 14,7

l 227,00
 638,05) 401,22

e = 2,71828

$$\varepsilon = 3^{\circ} 13 \frac{1}{2}' \quad n = 1,346$$

$$\log \varepsilon = 8,7508661 - 10$$

$$\log \varepsilon = 0,0563464$$

$$a = 2,467$$

$$t = 0,7212$$

$$\mu = \frac{t}{g \varepsilon} \left(1 + \frac{1}{4} \frac{t^2}{a^2} + \frac{1}{48} \frac{t^4}{a^4} \right)$$

hepten $\frac{t^2}{a^2} = 0,085463$

$\frac{t^4}{a^4}$ by elchuz yanzorkhato' log.

~~mu = 11,107~~

$$\mu = \frac{a(1+\sqrt{2})}{4\sqrt{1+\sqrt{2}}} \sqrt{\frac{a}{T+a(\sqrt{2}-1)}} e^{\frac{\sqrt{2}}{a}(T+a(\sqrt{2}-1))}$$

hepten ~~mu = 11,776~~

~~mu = 11,776~~

t bit

11,323

T bit

11,7156

Nyatta itah, et is ~~mu~~ 2T re.

$2t = 686$	$2T = 4525$	bit 11,30	$\mu = 11,36$	D bit 10,75
$2t = 705$	$2T = 4575$	bit 11,61	$\mu = 11,65$	D bit 11,06
				12,710

$$\frac{d\mu}{dT} = \mu \left(\frac{\sqrt{2}}{a} - \frac{1}{2(T+a(\sqrt{2}-1))} \right)$$

$$\frac{d\mu}{da} = \frac{\mu}{2} \left(\frac{3}{a} - \frac{\sqrt{2}-1}{T+a(\sqrt{2}-1)} - \frac{2\sqrt{2}}{a^2} \right)$$

Vij beallitaj
Nyabb irasok.

$$\begin{array}{r} 2t = 632 \\ 10,046 \end{array}$$

$$\begin{array}{r} 2T = 4288 \\ 10,601 \end{array}$$

$$2t = 1618$$

$$\begin{array}{r} \text{ellit } \mu = 28,126 \\ 2717 \end{array}$$

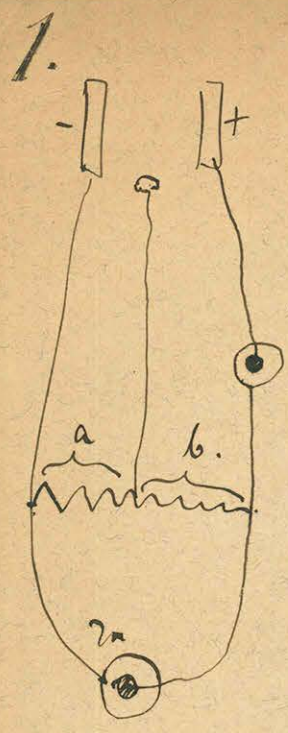
$$\begin{array}{r} 2T = 62678 \\ 6428 \\ \mu = 29,091 \end{array}$$

$$\underline{l} = 397$$

$$\underline{l}' = 34,0$$

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83. nov. 25.



$$\begin{array}{l|l} a=0 & J= - \\ b= - & J_0= - \end{array}$$

2 kíp fil h... .

$$2t =$$

$$\frac{a \text{ sziget}}{2n}$$

$$\underline{a=0 \quad b=1000}$$

$$\underline{2t} \quad \begin{array}{l} h. 159 \\ h. 241 \end{array} \quad \begin{array}{l} 668 \\ 668 \end{array} \quad \begin{array}{l} 219 \\ e. 125 \end{array} \quad \begin{array}{l} 658 \\ 658 \end{array}$$

$$\begin{array}{l} h. 155 \\ h. 241 \end{array} \quad \begin{array}{l} 664 \\ 664 \end{array} \quad \begin{array}{l} 214 \\ e. 129 \end{array} \quad \begin{array}{l} 655 \\ 655 \end{array}$$

$$\underline{a=0 \quad b=500}$$

$$\underline{2t} \quad \begin{array}{l} h. 164 \\ h. 241 \end{array} \quad \begin{array}{l} 670 \\ 670 \end{array} \quad \begin{array}{l} 227 \\ e. 127 \end{array} \quad \begin{array}{l} 650 \\ 650 \end{array}$$

$$\underline{a=0 \quad b=100}$$

$$\begin{array}{l} h. 128 \\ h. 178 \end{array} \quad \begin{array}{l} 700 \\ 700 \end{array} \quad \begin{array}{l} 147 \\ e. 100 \end{array} \quad \begin{array}{l} 697 \\ 697 \end{array}$$

$$\underline{a=0 \quad b=10}$$

$$\begin{array}{l} h. 140 \\ h. 100 \end{array} \quad \begin{array}{l} 757 \\ 757 \end{array} \quad \begin{array}{l} 104 \\ e. 117 \end{array} \quad \begin{array}{l} 760 \\ 760 \end{array}$$

$$\underline{a=0 \quad b=0}$$

$$\begin{array}{l} h. 157 \\ h. 956 \end{array} \quad \begin{array}{l} 851 \\ 851 \end{array} \quad \begin{array}{l} 50 \\ e. 122 \end{array} \quad \begin{array}{l} 822 \\ 822 \end{array}$$

$$\begin{array}{l} 104 \\ 221 \end{array} \quad \begin{array}{l} 600 \\ 600 \end{array} \quad \begin{array}{l} 220 \\ e. 84 \end{array} \quad \begin{array}{l} 614 \\ 614 \end{array}$$

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$$\underline{a=0} \qquad \underline{b=1000}$$

$$\begin{array}{r} \underline{2t} \\ h \end{array} \begin{array}{r} 102 \\ 217 \end{array} \begin{array}{l}) \\ , \end{array} \begin{array}{r} 635 \\ \\ \end{array} \qquad \begin{array}{r} 206 \\ 80 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 634 \\ \\ \end{array}$$

$$\underline{b=1000}$$

Polinom ketente felszerelve.

$$\begin{array}{r} h. \\ 214 \end{array} \begin{array}{r} 118 \\ \\ \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 654 \\ \\ \end{array} \qquad \begin{array}{r} 187 \\ 85 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 654 \\ \\ \end{array}$$

Polinom Kiselejtve

$$\begin{array}{r} h. \\ 211 \end{array} \begin{array}{r} 110 \\ \\ \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 649 \\ \\ \end{array} \qquad \begin{array}{r} 200 \\ 83 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 630 \\ \\ \end{array}$$

- elektromos csapókerék

$$\underline{a=0}$$

$$\underline{b=1000}$$

$$\begin{array}{r} \underline{2t} \\ h \end{array} \begin{array}{r} 112 \\ 217 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 645 \\ \\ \end{array} \qquad \begin{array}{r} 191 \\ 86 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 645 \\ \\ \end{array}$$

$$\begin{array}{r} \underline{2u} \\ e \end{array} \begin{array}{r} 215 \\ 59 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 94 \\ \\ \end{array} + 18 \text{ k.f.}$$

$$a=100$$

$$b=900$$

$$\begin{array}{l} \underline{J} \\ \underline{J_0} \end{array} \left\{ \begin{array}{l} +85,3 \\ -93,0 \\ +19,5 \\ -27,5 \end{array} \right.$$

$$\begin{array}{r} \underline{2t} \\ h \end{array} \begin{array}{r} 88 \\ 10 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 678 \\ \\ \end{array} \qquad \begin{array}{r} 248 \\ 68 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 670 \\ \\ \end{array}$$

$$\begin{array}{r} \underline{2u} \\ e \end{array} \begin{array}{r} 76 \\ 220 \end{array} \begin{array}{l}) \\ \\ \end{array} \begin{array}{r} 144 \\ \\ \end{array} + 17 \text{ k.f.}$$

$a = 0$

$b = 1000$

$$\begin{array}{r} 75 \\ 15 \end{array} \Big) 660$$

$$\begin{array}{r} 225 \\ 64 \end{array} \Big) 679$$

$$\underline{2u} \quad e \quad \begin{array}{r} 72 \\ 216 \end{array} \quad 144 + 17 R.f.$$

$a = 100$

$b = 900$

(a ceppi nyara nem változott)

$$\begin{array}{r} 86,5 \\ 250 \end{array} \Big) 586$$

$$\begin{array}{r} 240 \\ 77 \end{array} \Big) 580$$

$$\begin{array}{r} 94 \\ 20 \end{array} \Big) 574$$

$$\begin{array}{r} 22 \\ 75 \end{array} \Big) 550$$

Béltőlés cellával

$a = \cancel{100} = 0$

$$\underline{2u} \quad h \quad \begin{array}{r} 80 \\ 1 \end{array} \Big) 1579$$

$$\begin{array}{r} 250 \\ 67 \end{array} \Big) 567$$

$$\begin{array}{r} 80 \\ 248 \end{array} \Big) 582$$

$$\begin{array}{r} 240 \\ 65 \end{array} \Big) 575$$

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$$\underline{2u} \quad \begin{array}{r} 64 \\ 210 \end{array} \Big) \begin{array}{r} 156 \\ 94 \end{array} + 17 R.f.$$

Hydrogenirálva

$a = 100$

$b = 900$

$$\begin{array}{r} 84 \\ 248 \end{array} \Big) 586$$

$$\begin{array}{r} 4 \\ 70 \end{array} \Big) 566$$

h. 80) 586
244

e. 227) 580
60

(24 marks)

a = 200 b = 800

h. 75) 577
248

e. 227) 570
61

h. 71) 582
209

e. 221) 572
50

a = 200 b = 600

h. 70) 578
242

e. 222) 566
88

h. 66) 570
246

e. 227) 571
84

24 60) 119 + 17 R.f.
182

hijant finen pelintue.

h. 48) 580
218

e. 210) 585
45

24 25) 182 + 17 R.f.
217

h. 45) 586
209

e. 206) 582
8

a = 200

b = 400

h. 50) 586
217

e. 210) 586
86

2.

48
215) 580

206
46) 590

211 20
214) 194 + 17 R.f.

$a = 200 \quad b = 200$

(2u maradvány)

21 1. 50
219) 581

209
10) 591

59
212) 597

208
50) 592

5 perccel Re'itb

60
221) ~~599~~
589

~~219~~
~~261~~ 210
55) 595

2u 19
219) 200 + 17 R.f.

$a = 200 \quad b = 0$

(2u maradvány)

52
205) 602

202
60) 607

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(Mikéint perccel Re'itb)

68
217) 605

217
62) 595

$a = 0$

(a csúcson esz Re'itb beborítált Re'itb)

(A kubovitel mires' atate meymovodok)

90) 652
188

167) 656
73

2u e ²⁰²/₂₀) 70 + 18 Rf.

²¹/₂₁₅) 56 + 18 Rf.

A hijany frissen felintva is a
kubovitel elkarolitan.

89) 650
189

170) 664
84

98) 666
182

175) 650
75

2u ²⁰/₄₀) 87 18 Rf

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a = 1000 b = 900

A hijany oegyemertu

6. 166) ~~874~~
72) 874

57) ~~845~~
152

2u ⁹⁰/₉₀) 247 18 Rf

a = 100 b = 900

2u 179 + 17 Rf
187 + 17 Rf

h. 90, 601
212

e. ~~215~~
195
81

636

$a = 200$

$b = 400$

h. 90, 614
226

~~210~~ 210, 614
74

~~211~~ 52, 200 + 17 Rf.
2

h. 96, 615
221

~~210~~ ~~74~~ ~~210~~ ~~72~~

h. 82, 620
212

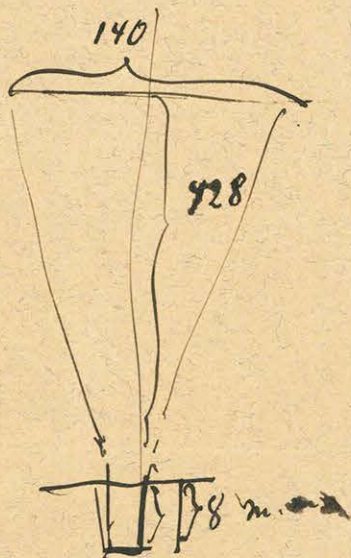
210, 605
65

$a = 0$

90, 615
225

210, 612
72

24 c. 42, 170 + 17 Rf.
212



$$\delta u = 2b \sin \frac{\delta \delta}{2} \cos \left(\delta + \frac{\delta \delta}{2} \right)$$

$$\delta f = 2b \sin \frac{\delta \delta}{2} \sin \left(\delta + \frac{\delta \delta}{2} \right)$$

$$\frac{f}{b} = \frac{u}{a^2} - \frac{\sin \delta}{u}$$

u, z, g, b, $\delta \delta$, δu , δz , $\delta u'$, $\delta z'$, $\delta u''$, $\delta z''$, $\delta u'''$, $\delta z'''$

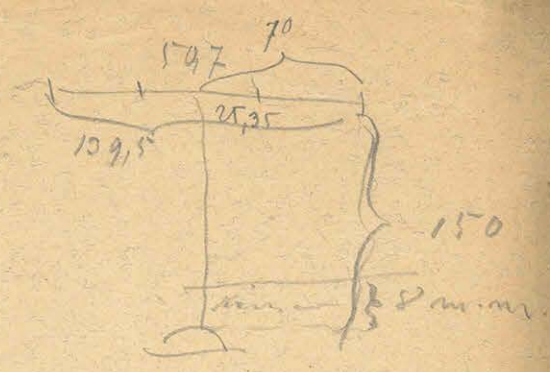
$\delta \delta = 1^\circ$

δ	$\log \sin \frac{\delta \delta}{2} \sin \left(\delta + \frac{\delta \delta}{2} \right)$	$\log \sin \frac{\delta \delta}{2} \cos \left(\delta + \frac{\delta \delta}{2} \right)$	$\log \sin \delta$
0	0,1827138 - 4	0,2418554 - 2	∞
1	0,6597909 - 4	0,2417231 - 2	0,2418553 - 2
2	0,8815515 - 4	0,2414584 - 2	0,5428192 - 2
3	0,0275472 - 3	0,2410611 - 2	0,7188002 - 2
4	0,1365152 - 3	0,2405310 - 2	0,8435845 - 2
5	0,2234448 - 3	0,2398679 - 2	0,9402960 - 2
6	0,2957307 - 3	0,2390712 - 2	0,0192346 - 1
7	0,3575696 - 3	0,2381405 - 2	0,0858945 - 1
8	0,4115740 - 3	0,2370752 - 2	0,1435553 - 1
9	0,4594811 - 3	0,2358746 - 2	0,1943324 - 1
10	0,5025049 - 3	0,2345380 - 2	0,2396702 - 1
11			0,2805988 - 1

δ	$\delta\delta$	$\lg 2 \sin \frac{\delta\delta}{2} \sin (\delta + \frac{\delta\delta}{2})$	$\lg 2 \sin \frac{\delta\delta}{2} \cos (\delta + \frac{\delta\delta}{2})$	$\sin \delta$
11°	1°	0,5415272 - 2	0,2330646 - 2	0,2805988 - 1
12°	1°	0,5772087 - 2	0,2014534 - 2	0,3178789 - 1
12°	1°	0,6100572 - 2	0,2297034 - 2	0,3520880 - 1
14°	2°	0,9558815 - 3	0,5278291 - 2	0,3836752 - 1
16°	2°	0,0088206 - 2	0,5234816 - 2	0,4403381 - 1
18°	2°	0,0555272 - 2	0,5185554 - 2	0,4899824 - 1
20°	2°	0,0972145 - 2	0,5130370 - 2	0,5340517 - 1
22°	2°	0,1347633 - 2	0,5069114 - 2	0,5735754 - 1
24°	2°	0,1688336 - 2	0,5001610 - 2	0,6093133 - 1
26°	2°	0,1999321 - 2	0,4927662 - 2	0,6418420 - 1
28°	2°	0,2284565 - 2	0,4847046 - 2	0,6716090 - 1
30°	4°	0,5680589 - 2	0,7722697 - 2	0,6989700 - 1
34°	4°	0,6130679 - 2	0,7518068 - 2	0,7475617 - 1
38°	4°	0,6519167 - 2	0,7281032 - 2	0,7893420 - 1
42°	4°	0,6856205 - 2	0,7007833 - 2	0,8255109 - 1
46°	4°	0,7149227 - 2	0,6693601 - 2	0,8569341 - 1
50°	4°	0,7403813 - 2	0,6331912 - 2	0,8842540 - 1
54°	6°	0,9434216 - 2	0,7559390 - 2	0,9079576 - 1
60°	6°	0,9697111 - 2	0,6768770 - 2	0,9375306 - 1
66°	6°	0,9899819 - 2	0,5741594 - 2	0,9607302 - 1
72°	6°	0,0047740 - 1	0,4328264 - 2	0,9782063 - 1

δ	α	$\log 2 \sin \frac{\delta}{2} \sin \delta + \frac{\delta}{2}$	$\log 2 \sin \frac{\delta}{2} \cos(\delta + \frac{\delta}{2})$	$\sin \delta$
78°	6°	0,0144501-1	0,2141626-2	0,9904044-1
84°	6°	0,0192346-1	0,7386304-3	0,9976143-1
90°				0

$\frac{198}{4} = 49,5$
 $\frac{12 \text{ Rf } 56}{500} = 6,72$
 $\frac{195}{4} = 48,75$
 $\frac{12 \text{ Rf } 62}{500} = 8,10$
 $\frac{6 \text{ Rf } 44}{500} = 1,55$
 $\frac{6 \text{ Rf } 60}{500} = 1,55$



Oxygensúly

$\frac{13 \text{ Rf } 152}{500}$
 $\frac{13 \text{ Rf } 148}{500}$
 $\frac{7}{500} = 1,4$
 $\frac{7}{500} = 1,4$

a csapp mélysége
 $h = \text{Koralltó 2,4}$

formulák a kis víznyomásúhoz
 $2\xi + h\sqrt{2} \sin \frac{\delta}{2} = 2a^2 \frac{\sin \delta}{u}$
 $h = a \left(1 + \frac{1}{2} \frac{a}{u} + \frac{1}{4} \frac{a^2}{u^2} \right) - \xi$

$\mu = \frac{t}{4\varepsilon} \left(1 + \frac{1}{4} \left(\frac{t}{a} \right)^2 + \frac{1}{48} \frac{t^3}{a^3} \right)$

Jelen esetben $\varepsilon = 3^\circ 36' 40''$
 $\frac{1}{4} \varepsilon = 0,063109$

$\delta = 11^\circ 52' 40''$

Az oxygensúly
 $\mu = t = 1,55$ $2u' = 13,4$

Oxygensúly
 $t = 1,89$ $2u' = 13,4$

Kiszámították μ 1 és 2 értékeit
 { 2) két kére de $a = 2,45$ km $\mu = 2,45 \cdot 0,233 = 0,571$
 tehát $\mu = \xi = \frac{a^2}{\mu} = \frac{6,0025}{0,571} = 10,51$

Minirev 1) két $h = 2,54$
 $2u = 6,120$ $n = 3,66$
 $\frac{2a^2 \sin \delta}{u} = 0,80782$
 $h\sqrt{2} \sin \frac{\delta}{2} = 0,07167$
 $\xi = 2,187$ $0,219$

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$\log e = 0,7243 \quad | \quad \log 0,28634 = 0,4568820 - 1$

$\mu = 16,88t \left(1 + \frac{1}{4} \frac{t^2}{a^2}\right)$

$a = 0 \quad b = 218$
 $2u = 18 \text{ Kf.} + \frac{9}{500} \quad n = 4,509$

$\mu' = a \cdot 0,28634 \sqrt{\frac{a}{T+a(\sqrt{2}-1)}} e^{\frac{u}{a}(T+a(\sqrt{2}-1))}$

$2t = \frac{\text{átlag}}{624}$
 $\left. \begin{matrix} 625 \\ 627 \\ 620 \end{matrix} \right\} = \frac{624}{500} = 1,248$
 $t = 0,624$

$a = 2,450 \quad a^2 = 6,0025$

~~$\mu = 10,671$~~ $\mu' = 11,33$
 $\mu = 10,76$

$2u = 18 \text{ Kf.} - \frac{7}{500}$

újra felmérés

felmérés után 5 perccel.

$2u = 19 \text{ Kf.} + \frac{91}{500}$

$\mu = 13,01 \quad \mu' = 13,36$

$2t = 755$
 $\left. \begin{matrix} 754 \\ 755 \\ 756 \end{matrix} \right\} 755$

$2u = 19 \text{ Kf.} + \frac{102}{500} \quad n = 4,85$

$a = 100 \quad b = 316$ Oxigénizálás az első ellenállás 600 Ohm
 újra felmérés felmérés után 10 perccel. a Daniell elem elektromos erő 1,12

$2u = 19 \text{ Kf.} + \frac{103}{500}$

$e = 0,235 \quad a = 2,314$
 $a^2 = 5,355$

$2t = 834$
 $\left. \begin{matrix} 836 \\ 832 \\ 839 \end{matrix} \right\} 835$

$\mu' = 14,56 \quad \mu = 14,50$

$2u = 19 \text{ Kf.} + \frac{92}{500} \quad n = 4,850$

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$a = 100 \quad b = 88$ Oxigénizálás
 újra felmérés felmérés után 8 perccel.

újra felmérés az oxigénizálással határozottan.

Újra felmérés után 6 perccel készült az első mérés oxigénizálás
 határozottan azután elkezdték mind jobban 10 perccel múlva még a szék
 szabadon volt. 14 perccel múlva az egész be volt csomagolva. - Még egyszer
 4 perccel készült mérés.

$a = 100 \quad b = 98$ Oxigénizálás

Oxidáció van a csészében 10 perccel múlva
 a csészébe beletöltötték az oxigént.

$$a = 100 \quad b = 110$$

Om den denalkylen = 60

10 par meter a i en vatt ug bis oxydretes. 60

$$a = 100 \quad b = ~~72~~ 110.$$

5 par meter i en vatt ug bis oxyd.

$$a = 100 \quad b = 120 \quad e = 0,286 \quad a = 2,21 \quad a^2 = 4,884$$

5 par meter i en vatt ug bis oxyd

$$2u = 18 \text{ kpf.} + \frac{128}{500}$$

$$\mu = 14,72$$

$$\mu' = 13,97$$

$$2t = \begin{array}{r} 845 \\ 840 \end{array} \left. \begin{array}{l} \\ \end{array} \right\} 0,844$$

sväts i en vatt ug bis oxydretes med ytt oxyd jöth.

$$2u = 18 \text{ kpf.} + \frac{142}{500}$$

$$\mu = 4,675$$

$$a = 0 \quad b = x$$

$$a = 2,45$$

inra fetöretes 5 par meter i en vatt ug bis oxyd

$$2u = 18 \text{ kpf.} + \frac{112}{500}$$

$$\mu = 11,308$$

$$\mu' = 11,93$$

$$2t = \begin{array}{r} 663 \\ 665 \\ 654 \\ 660 \end{array} \left. \begin{array}{l} \\ \end{array} \right\} 0,660$$

$$2u = 18 \text{ kpf.} + \frac{118}{500}$$

$$\mu = 4,615$$

$$a = 100 \quad b = 316 \quad \text{hydrogeniserat}$$

5 par meter i en vatt ug bis oxydretes. $e = 0,285 \quad a = 2,500 \quad a^2 = 6,265$

$$2u = 18 \text{ kpf.} + \frac{4}{500}$$

$$2t = \begin{array}{r} 607 \\ 605 \\ 603 \\ 603 \end{array} \left. \begin{array}{l} \\ \end{array} \right\} 0,605$$

$$\mu = 10,32$$

$$\mu' = 11,06$$

$$\mu = 4,510$$

$$2u = 18 \text{ kpf.} + \frac{14}{500}$$

$$\text{fetöretes} \quad a = 100 \quad b = 98 \quad e = 4,00 \quad a = 2,511 \quad a^2 = 6,305$$

$$2u = 18 \text{ kpf.} + \frac{6}{500}$$

$$2t = \begin{array}{r} 612 \\ 610 \\ 609 \end{array} \left. \begin{array}{l} \\ \end{array} \right\} 0,614$$

$$\mu = 10,488$$

$$\mu' = 11,36$$

$$2u = 18 \text{ kpf.} + \frac{85}{500} \quad \mu = 4,574$$

$$a = 100$$

$$b = 10$$

5 pass mullva

$$e = 0,659 \quad a = 2,517$$

$$m = 18 \text{ kpl.} + \frac{100}{500}$$

~~$$a = 616$$~~

$$a = 627$$

$$627 \left. \begin{array}{l} \\ \\ \\ \end{array} \right\} 0,628$$

$$620$$

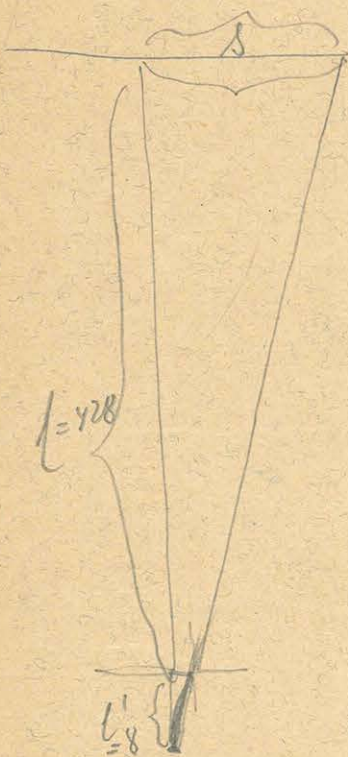
$$617.$$

$$\mu = 10,637 \quad (\mu) = 11,52$$

$$m = 18 \text{ kpl.} + \frac{120}{500}$$

$$n = 4,610$$

Ehhez járulékos



(s) = 10

$$l \cos \varphi + l' \cos \varphi' = s$$

$$l \sin \varphi + l' \sin \varphi' = h$$

$$n \sin \varphi = \sin \varphi'$$

$$l n \sin \varphi + l' \sin \varphi' = s$$

$$\sin \varphi' = \frac{s}{nl + l'}$$

$$\varepsilon = \frac{\varphi'}{2}$$

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$$\mu = \frac{s}{2(nl + l')}$$

$$\mu = \frac{2(nl + l')}{s} t \left(1 + \frac{1}{4} \frac{l^2}{a^2} + \frac{1}{48} \frac{l^4}{a^4} \right)$$

$$n = 1,246$$

$$\mu = 16,69 t \left(1 + \frac{1}{4} \frac{12}{a^2} \right)$$

Jóval járulékos

$$t \cos \varphi = \frac{s}{l + l'}$$

$$\varphi = 9^\circ 10'$$

$$\frac{\sin \varphi}{\sin \varphi'} = n \quad \varphi' = 6^\circ 48'$$

$$\varepsilon = 3^\circ 24'$$

$$t \cos \varepsilon = 0,0594109$$

$$\mu = 1,683 t \left(1 + \frac{1}{4} \frac{12}{a^2} \right)$$

§ -

24 óra it úgy maradt — a vella is benne $a=100$
 $b=10$ el — csak különbözött a huzagon, az elterjedés
és újra felvétel.

$$a = 100 \quad b = 10$$

Rezi huzag elterjedése és új felvétel.

$$2a = 18 \text{ Rf} \frac{155}{500}$$

$$2t = 675$$

$$= 682$$

$$= 670$$

$$680$$

$$2u = 18 \text{ Rf} \frac{160}{500}$$

Újra lepirkába és felvétel.

$$2u = 18 \text{ Rf} \frac{20}{500}$$

$$2t = 640$$

$$= 642$$

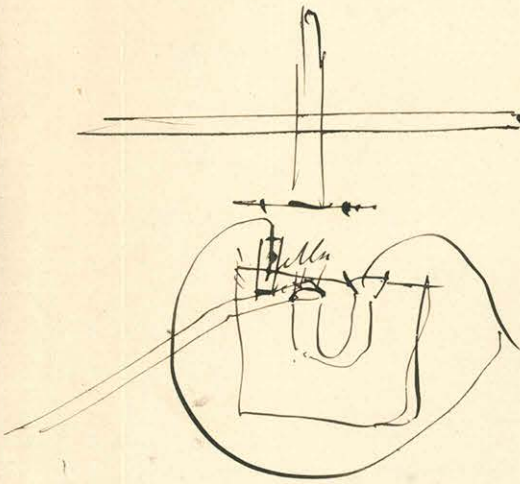
$$= 650$$

$$= 650$$

$$2u = 18 \text{ Rf} \frac{45}{500}$$

Krisztus 1882 Nov. 28 és 29-án

A Poisson-féle erőgyűrű és a Köny-féle kávételes
ellenőrzése.



- a) Leméretelt a erőgyűrűn kötelező hely
b) A köny mérete a erőgyűrűn.
c) A erőgyűrű mérete.

Erőtelenség, Poisson-féle erőgyűrű, köny mérete, a köny mérete a erőgyűrűn.

A erőgyűrű sűrűsége a köny mérete, a köny mérete a erőgyűrűn.

Erőtelenség Számára	Erőgyűrű átlagm. mérete	Köny mérete	Köny mé- rete	Köny mé- rete	A köny mé- rete a erőgyűrűn
1	4,557	0,667	0,692	0,834	0,190
2	4,560	0,670	0,693	0,840	0,186
3	4,555	0,676	0,692	0,852	0,198
4	4,566	0,668	0,700	0,834	0,188
5	4,569	0,671	0,697	0,842	0,186
6	4,595	0,675	0,698	0,850	0,166
7	4,596	0,672	0,704	0,844	0,170
8	4,603	0,682	0,702	0,864	0,170
9	4,598	0,679	0,701	0,858	0,168
10	4,601	0,675	0,704	0,850	0,164

Köny = 4,580 | 0,698 | 0,847 | 0,178

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~~A köny mérete a erőgyűrűn a köny mérete a erőgyűrűn~~

Egyéb adatok: a Thendalython köny mérete a erőgyűrűn

viszintés hely = 27° 28' a erőgyűrű köny mérete a erőgyűrűn
= 50,7 m.m. a erőgyűrű köny mérete a erőgyűrűn 152,2 m.m. a erőgyűrű köny mérete a erőgyűrűn
a erőgyűrű köny mérete a erőgyűrűn 1,246

Erőgyűrű mérete

$\delta = 34^\circ 30'$
 $\delta' = 55^\circ 31'$

$$a = \frac{h-h}{P+hR+hR}$$

$$P = \sqrt{2}(\cos \frac{\delta}{2} - \cos \frac{\delta'}{2} + \frac{1}{2} \log \frac{1 + \frac{\delta}{2}}{1 + \frac{\delta'}{2}})$$

$$\log x = 2,302585 \log nat. x.$$

$$\log 2,302582 = 0,3622154$$

$$Q = \frac{1}{4u} \log \frac{\delta'}{4} - \frac{1}{4u} \log \frac{\delta}{4} - \frac{1}{12} \frac{u'-u}{uu'} - \frac{1}{24} (\frac{1}{u' \cos \frac{\delta'}{4}} - \frac{1}{u \cos \frac{\delta}{4}}) + \frac{1}{6} (\frac{\cos \delta'}{u'} - \frac{\cos \delta}{u})$$

$$R = -\frac{c^2}{\sqrt{2} u_0} (\cos \frac{\delta'}{2} - \cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \frac{\delta'}{2}}{1 + \frac{\delta}{2}})$$

$$c = \frac{1}{3}$$

Tenti' høy lilla tenitt

$$n' = 4,402$$

$$n = 3,555$$

$$n'' = 4$$

$$d' = 55^{\circ} 31'$$

$$d = 34^{\circ} 29'$$

lupen.

$$P = 0,24619$$

$$\log P = 0,3912714 - 1$$

$$Q = +0,03350$$

$$R = -0,00086$$

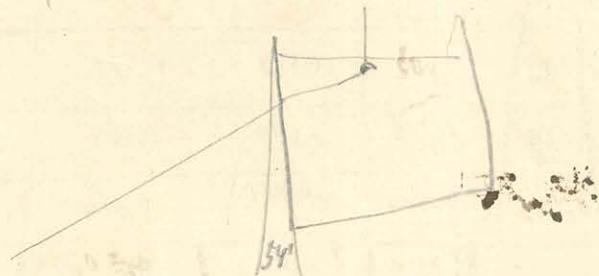
$$\rightarrow) \text{ Skilt } \frac{1}{4n'} \log \frac{d'}{4} - \frac{1}{4n} \log \frac{d}{4} = 0,05326$$

$$\frac{1}{12} \frac{n' - n}{nn'} = 0,00450$$

$$\frac{1}{24} \left(\frac{1}{n'} \cos^2 \frac{d'}{4} - \frac{1}{n} \cos^2 \frac{d}{4} \right) = -0,00195$$

$$\frac{1}{6} \left(\frac{\cos d'}{n'} - \frac{\cos d}{n} \right) = -0,01721$$

Afenti' estehet som job' minst med uttalt kitenst
 a Phokan deira ferden er pedy' og i lakk by høyde
 a føygetes by 54' vakk.



2 Kønslinj' med tenitt lilla n' lilla' (eggethet i sommet vakk i anten)

$$d' = 58^{\circ} 35'$$

$$d = 31^{\circ} 25'$$

$$P = 0,32380_{1032425}$$

$$Q = 0,03806 \quad aQ = 0,093247$$

$$R = -0,001126 \quad a^2 R = 0,006758$$

$$Q =$$

$$R =$$

$$\rightarrow) \text{ Skilt } \frac{1}{4n'} \log \frac{d'}{4} - \frac{1}{4n} \log \frac{d}{4} = 0,06509 = \cancel{0,06509} = 0,02674 + 0,06295$$

$$\frac{1}{12} \frac{n' - n}{nn'} = 0,00450 = -0,00457 - 0,00451$$

$$\frac{1}{6} \left(\frac{\cos d'}{n'} - \frac{\cos d}{n} \right) = -0,02082 = \cancel{-0,02082} = -0,02082$$

$$\frac{1}{24} \left(\frac{1}{n'} \cos^2 \frac{d'}{4} - \frac{1}{n} \cos^2 \frac{d}{4} \right) = -0,00044$$

$$R = -0,001126$$

10 éretésből
fő álmérete = 4,580

hív. vonalra $t = 0,698$

$$\mu = \frac{t}{4\varepsilon} \left(1 + \frac{1}{4} \frac{t^2}{a^2} + \frac{1}{48} \frac{t^4}{a^4} \right)$$

$$a = 2,450 \quad a^2 = 6,0025$$

$$\varepsilon = 3^\circ 29'$$

e szám $\mu = 11,639$

$$\mu = 11,639$$

Prismen Poisson

formulát

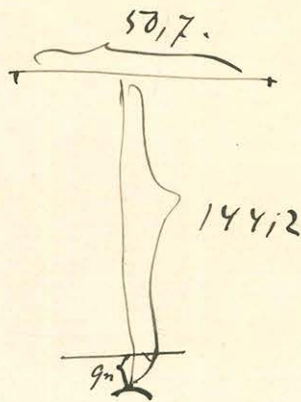
$$\mu' = 11,625$$

Méretük a 12 milliméteres csőben. \overline{FX}

10 éretésből

fő álmérete = 6,772

$$t = 1,962$$



$$\varepsilon = 3^\circ 45' \text{ kból}$$

$$\mu = 34,999$$

Poisson formulából

$$\mu' = 34,873$$

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AR

Mérések a 12 m. m. - es csőben.

A) <u>2a</u>	27 Rf	16	<u>x-x'</u>	1 Rf	175
	27	21		1	178
	27	15		1	172
	27	10		1	178
	27	22		1	185
	27	29		1	186
	27	25		1	180
	27	22		1	186
	27	20		1	187
	<u>27</u>	<u>26</u>		<u>1</u>	<u>187</u>
Köréj értéke	27	<u>22</u>		1	<u>179,8</u>
		500			500
					<u>179,8</u>

19,544

B) <u>vt</u>	7 Rf	202	7 Rf	216
	7	204	7	210
	7	205	7	218
	7	206	7	216
	7	217	7	220

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R. e. 7 Rf 211,4
500

3,5422
3,922
1,962

©) zu	27 Rf	74	x-x'	1 Rf	177
	27	62		1	163
	27	69		1	167
	27	76		1	164
	27	75		1	164
R.e!	27	$\frac{71,2}{500}$		1	$\frac{167}{500}$

Körjárték az A) és C) mérésekben

zu	27	$\frac{46,6}{500}$	x-x'	1	$\frac{173,4}{500}$
----	----	--------------------	------	---	---------------------

A higany felületén oxigéniráték.

zu	26 Rf	$\frac{205}{500}$	x-x'	1 Rf	$\frac{140}{500}$
2')	26	200		1	142
	26	215		1	146
	26	209		1	140
	26	215		1	143
R.e!	26 Rf	$\frac{209}{500}$		1 Rf	$\frac{142}{500}$

<u>2T</u>	8 Rf	180
D')	8	175
	8	166
	8	172
	8	169
	<u>R.e'</u>	8 Rf	$\frac{172}{500}$

<u>24</u>	26 Rf	214	x-v'	1 Rf	161
C')	26	227	1		156
	26	229	1		157
	26	222	1		155
	26	224	1		155
	<u>R.e'</u>	26 Rf	$\frac{224}{500}$	1 Rf	$\frac{157}{500}$

Köréjűrték D') és C') adataiból

<u>24</u>	26 Rf	$\frac{216,5}{500}$	x-v'	1 Rf	$\frac{149,5}{500}$
		<u>~~~~~</u>			<u>~~~~~</u>

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A Platon-féle edény hajlásszöge

$\alpha = 10^\circ 28'$ $\sin \alpha = 0,02867$

Oxygenirált higany-só

89	184	180
16	24	46
62		
29	14	121
160		109
19		

80	184	186
10	0	47
57		
34	1	126
160		
16		106

89	180	180
14	0	38
52		
33	1	127
160		
9		99

86	18	176
7	0	37
12		
49		
16	1	121
32		
18		99
160		
12		

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88	$2u = 18 Pf$	175
79	$vt = 3 Pf$	42
" 51		
41	$x-x' = 1 Pf$	124
164		99
10		

91	$18 Pf$	$\frac{176}{500}$
18	2	40
61		
39	1	127
166		101
17		

88	$18 Pf$	180
17	$3 Pf$	48
65		
37	$1 Pf$	127
164		107
21		

88		
89	$18 Pf$	170
20	$3 Pf$	45
68		
41	$1 Pf$	125
166		96
12		

87	18 Kf	181
25	3 Kf	28
60		
41	1	120
164		
18		104

89	18 Kf	178
17	3 Kf	45
62		
40	1 Kf	125
165		
17		102

Rövidítették

zn	18 Kf	178,8
zt	3 Kf	42,9
x-x'	1 Kf	126,6
		102,2

MAGYAR
TUDOMÁNYOS AKADEMIÁ
KÖNYVTÁRA

150,9 m.m. 3° 31'



20
165
87
65
222
77

20 18 Rf $\frac{57}{500}$
21 2 Rf $\frac{172}{500}$
 $x_2 - x_1$ 1 Rf $\frac{167}{500}$
 $x_1 - x_2$ $\frac{95}{500}$

16
150
93
63
222
76

18 Rf 69
2 192
1 170
90

25
160
102
55
222
86

18 Rf 55
2 192
1 ~~176~~
99

MAJLIS
KONGRES
MELAK
JUMPAAN DE AKADEMIKA
KONGRES

15
7 158
10 108
16 72
17 209
18 81

18 Rf. $\frac{66}{500}$
2 + $\frac{200}{500}$
 $\frac{167}{500}$
 $\frac{92}{500}$

17
160
107
72
240
86

#

70
240
188
157
82
165

70
270
184
159
81
166

70
228
181
156
88
170

72
278
184
152
86
170

$$2m = 18 \frac{69}{500}$$

$$2 + \frac{297}{500}$$

$$1 + \frac{171}{500}$$

$$\frac{90}{500}$$

$$2m = 18 + \frac{25}{500}$$

$$2 + \frac{198}{500}$$

$$\frac{175}{500}$$

$$\frac{80}{500}$$

$$18 + \frac{96}{500}$$

$$2 + \frac{204}{500}$$

$$1 + \frac{172}{500}$$

$$\frac{85}{500}$$

$$18 + \frac{105}{500}$$

$$2 + \frac{200}{500}$$

$$1 + \frac{182}{500}$$

$$\frac{85}{500}$$

$$18 + \frac{68}{500}$$

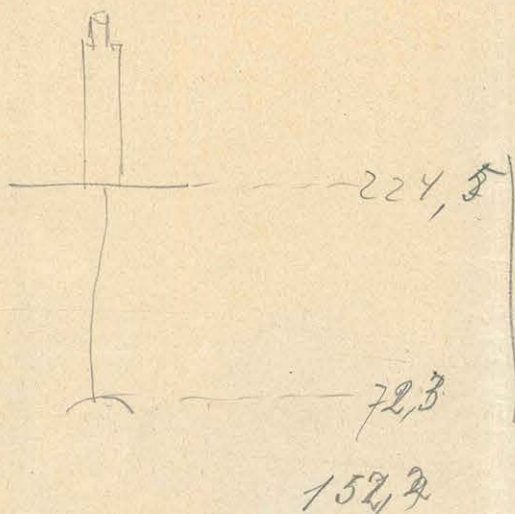
$$2 + \frac{201}{500}$$

$$1 + \frac{179}{500}$$

$$\frac{84}{500}$$

69
 224
 188
 160
 88
 170

$18 + \frac{709}{500}$
 $2 + \frac{204}{500}$
 $1 + \frac{175}{500}$
 $\frac{82}{500}$



$\frac{224,2 \quad 225,0}{224,6}$
 $\frac{72,4}{152,2}$

A két oldal egyenlő

50,7 mm.

$u = 4,580$

$x_2 - x_1 =$

$x_0 - x_2 =$

$t =$

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37° 28'

$$\delta' = 58^\circ 35'$$

$$u' = 4,402$$

$$\cos \delta' = 0,5212579$$

$$\frac{\delta'}{2} = 29^\circ 17\frac{1}{2}'$$

$$\cos \frac{\delta'}{2} = 0,8721404$$

$$\frac{\delta'}{4} = 14^\circ 38\frac{3}{4}'$$

$$\log \operatorname{tg} \frac{\delta'}{4} = -1,34195$$

$$\delta = 31^\circ 25'$$

$$u = 3,555$$

$$\cos \delta = 0,8533992$$

$$\frac{\delta}{2} = 15^\circ 42\frac{1}{2}'$$

$$\cos \frac{\delta}{2} = 0,9626523$$

$$\frac{\delta}{4} = 7^\circ 51\frac{1}{4}'$$

$$\log \operatorname{tg} \frac{\delta}{4} = -1,98089$$

$$z = \frac{2a^2 \sin \delta}{u} - \{$$

$$z^2 = \frac{4a^4 \sin^2 \delta}{u^2} + \{^2 - \frac{4a^2 \sin \delta}{u} \} \quad \{ = \frac{a^2}{\mu}$$

$$\frac{4a^4 \sin^2 \delta}{u^2} \left(\frac{1}{3} - \frac{a^2}{4u^2} \right) + \frac{a^4}{\mu^2} \left(\frac{1}{3} - \frac{a^2}{4u^2} \right) - \frac{4a^4}{\mu u} \sin \delta$$

$$- \frac{2a^2}{u} \left(\frac{1}{6} \{ - \frac{a^2}{2u^2} \} \right) \sin \delta + \frac{a^2}{\mu} \left(\frac{1}{6} \{ - \frac{a^2}{u^2} \} \right) - \left(\frac{1}{6} + \frac{a^2}{4u^2} \right) \{^2 - a^2 \sin^2 \frac{\delta}{2} = 0$$

$$\frac{2a^2 \sin^2 \delta}{u^2} \left(\frac{1}{3} - \frac{a^2}{4u^2} \right) + \frac{a^2}{\mu^2} \left(\frac{1}{3} - \frac{a^2}{4u^2} \right) - \frac{4a^2}{\mu u} \sin \delta$$

$$- \frac{2a^2}{\mu u} \left(\frac{1}{6} - \frac{a^2}{2u^2} \right) \sin \delta + \frac{a^2}{\mu^2} \left(\frac{1}{6} - \frac{a^2}{2u^2} \right) - \frac{a^2}{\mu^2} \left(\frac{1}{6} + \frac{a^2}{4u^2} \right) - \sin^2 \frac{\delta}{2} = 0$$

$$\frac{a^2}{\mu^2} \left(\frac{1}{3} + \frac{1}{6} - \frac{1}{6} \right) + \frac{a^2}{\mu^2} \left(-\frac{a^2}{4u^2} - \frac{a^2}{2u^2} - \frac{a^2}{4u^2} \right)$$

$$\frac{1}{3} \frac{a^2}{\mu^2} + \frac{a^2}{\mu^2} \frac{a^2}{u^2} - \sin \delta \left(\frac{4a^2}{\mu u} + \frac{a^2}{\mu^2} - \frac{a^4}{\mu u^3} \right)$$

$$\sin^2 \delta \frac{2a^2}{u^2} \left(\frac{1}{3} - \frac{a^2}{4u^2} \right) + \frac{1}{2} \frac{a^2}{\mu^2} + \frac{a^2 a^2}{\mu^2 u^2} - \sin \delta \left(\frac{13 a^2}{3 \mu u} - \frac{a^4}{\mu u^3} \right) - \sin^2 \frac{\delta}{2} = 0$$

$$\frac{1}{3 \mu^2} + \frac{a^2}{\mu^2 u^2} - \sin \delta \left(\frac{13}{3} \frac{1}{\mu u} - \frac{a^2}{\mu u^2} \right) \quad \mu \delta$$

$$\frac{1}{3 \mu} + \frac{a^2}{\mu u^2} - \sin \delta \left(\frac{13}{3} \frac{1}{u} - \frac{a^2}{u^2} \right) = 0$$

$$\frac{a^2}{\mu u^2} + \sin \delta \frac{a^2}{u^2} = \frac{13}{3u} \sin \delta - \frac{1}{3 \mu}$$

$$a^2 \left(\frac{1}{\mu u^2} + \frac{\sin \delta}{u^2} \right)$$

$$a^2 \left(\frac{1 + \mu \sin \delta}{\mu u^2} \right) =$$

$$a^2 = \frac{\mu u^2}{1 + \mu \sin \delta} \left(\frac{13}{3u} \sin \delta - \frac{1}{3 \mu} \right)$$

$$\times 0,163$$

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$$\mu = 24,56$$

$$\sin \delta = 0,0631$$

$$u = 1,55$$

$$2\xi + h\sqrt{2} \sin \frac{\delta}{2} = 2a^2 \frac{\sin \delta}{n}$$

$$\xi + \zeta = 2a^2 \frac{\sin \delta}{n}$$

$$2 = \xi + h\sqrt{2} \sin \frac{\delta}{2}$$

$$n' - n = h\sqrt{2} \left(\frac{1}{\sqrt{2}} - 1 + \frac{1}{2} \log \frac{\sqrt{2}-1}{2-\xi} \right) 2h\sqrt{2}$$

$$\sqrt{2}-1 = \frac{1}{\sqrt{2}+1}$$

$$h = a \left(1 + \frac{1}{2} \frac{a}{n} \right) - \xi$$

$$\frac{1}{2\xi + h\sqrt{2} \sin \frac{\delta}{2}} = \frac{n}{2a^2 \sin \delta}$$

$$n = \frac{2a^2 \sin \delta}{2\xi + h\sqrt{2} \sin \frac{\delta}{2}}$$

~~$$2 - \xi = h\sqrt{2} - 1$$~~

$$2 - \xi = \frac{2\sqrt{2}h}{\sqrt{2}+1} e^{\frac{n}{h\sqrt{2}}} e^{-\frac{\sqrt{2}}{2}(n' + h(\sqrt{2}-1))}$$

$$2 = \frac{\xi}{\sqrt{2}+1} \sqrt{\frac{a}{n}} e^{\frac{n}{a}} \quad \triangleright \quad n \quad \delta$$

~~ok~~

$$2\xi = \frac{2a^2 \sin \delta}{n' - h\sqrt{2} \left(\frac{1}{\sqrt{2}} - 1 \right) - \frac{h}{\sqrt{2}} \log \frac{\sqrt{2}-1}{2-\xi}} - h\sqrt{2} \sin \frac{\delta}{2}$$

$$2 \frac{d\xi}{dn} = 2a^2 \frac{\cos \delta}{n^2} + 2a^2 \frac{\sin \delta}{n^2} \frac{d}{dn} \left(\frac{1}{\sqrt{2}} - 1 \right) \frac{1}{\sqrt{2}-1} \frac{1}{\sqrt{2}} \frac{1}{\sqrt{2}+1} + \frac{h}{\sqrt{2}} \cos \frac{\delta}{2}$$

~~_____~~

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~~_____~~

$$\frac{2}{\sqrt{2} \sin \frac{\delta}{2}}$$



$$\frac{(2-\xi)}{\sqrt{2} \sin \frac{\delta}{2}}$$

~~_____~~

$$- 2n \frac{dn}{dn} = -2d(n \sin \delta)$$

$$2n \frac{dn}{dn} = 2d(n \sin \delta)$$

$$Z = \frac{\int \sqrt{\frac{a}{u}} e^{\frac{u\sqrt{2}}{a}}}{\sqrt{\pi}\sqrt{2}}$$

$$Z = \xi + h\sqrt{2} \sin \frac{\theta}{2}$$

$$\frac{Z - \xi}{2h\sqrt{2}}$$

$$\frac{\theta}{4} = \frac{\sin \frac{\theta}{4}}{\cos \frac{\theta}{4}}$$

$$\frac{u' - u \xi}{h\sqrt{2}} = \frac{1}{\sqrt{2}} - 1 + \frac{1}{2} \log \frac{2}{\xi}$$

$$\frac{u' - u}{h\sqrt{2}} = \frac{1}{\sqrt{2}} - 1 + \frac{1}{2} \log \frac{\xi^{20, \frac{1}{2}}}{\xi^{\frac{2}{4}}}$$

$$\frac{\theta}{4} = \sin \frac{\theta}{4} = \frac{Z - \xi}{2h\sqrt{2}}$$

h\sqrt{2}

$$\xi^{22 \frac{1}{2}} = \sqrt{2} - 1$$

$$\frac{u' - u}{h\sqrt{2}} = \frac{1}{\sqrt{2}} - 1 + \frac{1}{2} \log \frac{\sqrt{2} - 1}{Z - \xi} 2h\sqrt{2}$$

$$\frac{1 - \sqrt{2}}{\sqrt{2}}$$

$$(2 - \sqrt{2})^2$$

$$2 \frac{u' - u}{h\sqrt{2}} + 2 \frac{\sqrt{2} - 1}{\sqrt{2}} = \log \frac{(\sqrt{2} - 1) 2\sqrt{2}}{Z - \xi} h$$

$$-2 \frac{u' - u}{h\sqrt{2}} + 2 \frac{\sqrt{2} - 1}{\sqrt{2}} = \log \frac{Z - \xi}{(\sqrt{2} - 1) 2\sqrt{2} h}$$

$$\frac{1}{\sqrt{2} - 1} = \frac{\sqrt{2} + 1}{1}$$

$$Z - \xi = (\sqrt{2} - 1) 2\sqrt{2} h e^{-\left(2 \frac{u' - u}{h\sqrt{2}} + 2 \frac{\sqrt{2} - 1}{\sqrt{2}}\right)}$$

$$Z - \xi = (\sqrt{2} - 1) 2\sqrt{2} e^{\frac{u}{\sqrt{2}}} e^{-\frac{\sqrt{2}}{a}(u' + h(\sqrt{2} - 1))}$$

$$h = a \left(1 + \frac{1}{2} \frac{a}{u}\right) - \xi$$

$$\xi = \frac{1}{\sqrt{2}}$$

$$\frac{1}{h^2} = \frac{1}{h}$$

$$h = \frac{a}{\mu}$$

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$$Z = (\sqrt{2} - 1) 2\sqrt{2} e^{\frac{u}{\sqrt{2}}} e^{-\frac{\sqrt{2}}{a}(u' + h(\sqrt{2} - 1))}$$

$$\frac{\int \sqrt{\frac{a}{u}}}{\sqrt{\pi}\sqrt{2}} = (\sqrt{2} - 1) 2\sqrt{2} e^{-\frac{\sqrt{2}}{a}(u' + h(\sqrt{2} - 1))}$$

$$\int \sqrt{\frac{a}{u}} = 4(\sqrt{2} - 1) \sqrt{\pi}\sqrt{2} e^{-\frac{\sqrt{2}}{a}(u' + h(\sqrt{2} - 1))}$$

$$\frac{a^2 \sqrt{a}}{\mu \sqrt{u}} = 4(\sqrt{2} - 1) \sqrt{\pi}\sqrt{2} e^{-\frac{\sqrt{2}}{a}(u' + h(\sqrt{2} - 1))}$$

$$\mu = a^2 \sqrt{\frac{u}{a}}$$

$$z = \xi + iy$$

$$uz^2 - \int z^2 du - a^2 u(1 - \cos \delta) - a^2 \int (ds - du) = 0$$

~~$$u(z^2 - \xi^2) +$$~~

$$u(z^2 - \xi^2) - 2\xi \int y du - \int y^2 du - a^2 u(1 - \cos \delta) - a^2 \int (ds - du) = 0$$

$$y = \sqrt{2} (z_0 - \xi) \sin \frac{\delta}{2}$$

$$y^2 = 2(z_0 - \xi)^2 \sin^2 \frac{\delta}{2}$$

$$dy = \frac{z_0 - \xi}{\sqrt{2}} \cos \frac{\delta}{2} d\delta$$

$$du = \frac{z_0 - \xi}{\sqrt{2}} \frac{\cos \frac{\delta}{2}}{\sin \frac{\delta}{2}} d\delta = \frac{z_0 - \xi}{2\sqrt{2}} \frac{\cos \delta}{\sin \frac{\delta}{2}} d\delta = \frac{z_0 - \xi}{2\sqrt{2}} \frac{1 - \cos \delta}{\sin \frac{\delta}{2}} d\delta = \frac{z_0 - \xi}{\sqrt{2}} \frac{\sin \frac{\delta}{2}}{\sin \delta} d\delta$$

$$ds = \frac{dz}{\sin \delta} \quad du = \frac{dz}{\sin \delta} \quad ds - du = dz \frac{1 - \cos \delta}{\sin \delta} = dz \frac{2 \sin^2 \frac{\delta}{2}}{\sin \delta}$$

$$ds - du = \frac{z_0 - \xi}{\sqrt{2}} \cos \frac{\delta}{2} \cdot \frac{2 \sin^2 \frac{\delta}{2}}{\sin \delta} d\delta = \frac{z_0 - \xi}{\sqrt{2}} \sin \frac{\delta}{2} d\delta$$

~~$$u(z^2 - \xi^2) = a^2 u(1 - \cos \delta) +$$~~

$$y du = \frac{(z_0 - \xi)^2}{2} d\delta - (z_0 - \xi)^2 \sin^2 \frac{\delta}{2} d\delta$$

$$y^2 du = \frac{(z_0 - \xi)^2}{\sqrt{2}} \sin \frac{\delta}{2} d\delta - \sqrt{2} (z_0 - \xi)^3 \sin^2 \frac{\delta}{2} d\delta$$

$$u(z^2 - \xi^2) = a^2 u(1 - \cos \delta) + (z_0 - \xi)^2 \xi \int d\delta - 2\xi (z_0 - \xi)^2 \int \sin^2 \frac{\delta}{2} d\delta + \frac{(z_0 - \xi)^3}{\sqrt{2}} \int \sin \frac{\delta}{2} d\delta - \sqrt{2} (z_0 - \xi)^3 \int \sin^2 \frac{\delta}{2} d\delta + \frac{(z_0 - \xi)^3}{\sqrt{2}} a^2 \int \sin \frac{\delta}{2} d\delta$$

$$\int d\delta = \delta$$

$$\int \sin^2 \frac{\delta}{2} d\delta = -\frac{1}{2} \sin \delta + \frac{\delta}{2}$$

$$\int \sin \frac{\delta}{2} d\delta = 2(1 - \cos \frac{\delta}{2})$$

$$\int \sin^3 \frac{\delta}{2} d\delta = -\frac{2}{3} \sin^2 \frac{\delta}{2} \cos \frac{\delta}{2} + \frac{4}{3} (1 - \cos \frac{\delta}{2})$$

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$$u(z^2 - \xi^2) = 2a^2 u \sin^2 \frac{\delta}{2} + (z_0 - \xi)^2 \xi \delta + \xi (z_0 - \xi)^2 \sin \delta - (z_0 - \xi)^2 \xi \delta + \sqrt{2} (z_0 - \xi)^3 (1 - \cos \frac{\delta}{2}) + \frac{(z_0 - \xi)^3}{\sqrt{2}} a^2 (1 - \cos \frac{\delta}{2}) + \frac{(z_0 - \xi)^3}{3} \sin^2 \frac{\delta}{2} \cos \frac{\delta}{2} - \frac{4\sqrt{2}}{3} (z_0 - \xi)^3 (1 - \cos \frac{\delta}{2}) + \frac{(z_0 - \xi)^3}{\sqrt{2}} a^2 (1 - \cos \frac{\delta}{2})$$

~~$$u(z^2 - \xi^2) = 2a^2 u \sin^2 \frac{\delta}{2} + (z_0 - \xi)^2 \xi \delta + \xi$$~~

$$u(z^2 - \xi^2) = 2a^2 u \sin^2 \frac{\delta}{2} + \xi (z_0 - \xi)^2 \sin \delta + \frac{\sqrt{2} (z_0 - \xi)^3 (3a^2 - (z_0 - \xi)^2)}{3} (1 - \cos \frac{\delta}{2}) + \frac{2\sqrt{2} (z_0 - \xi)^3}{3} \sin^2 \frac{\delta}{2} \cos \frac{\delta}{2}$$

then $\xi = 0$ or $z_0 - \xi = a$

$$uz^2 = 2a^2 u \sin^2 \frac{\delta}{2} + \frac{4}{3} \frac{a^3}{\sqrt{2}} (1 - \cos \frac{\delta}{2})$$

$$z^2 - \xi^2 = \frac{\xi (z_0 - \xi)^2}{n} \sin \delta$$

$$z + \xi = 2 \frac{a^2}{n} \sin \delta$$

$$z - \xi = \frac{\xi (z_0 - \xi)^2}{2a^2}$$

$$z = \frac{\xi (z_0 - \xi)^2}{2a^2} + \frac{\xi (z_0 - \xi)^2}{2a^2}$$

Vinjantosa a 15 mm etres a'tm'öyü erçygnel
 bulgore nepe $a^2 = 6$ $a = 2,4495$

10 da Panson formula $\mu = 0,28628 a \sqrt{\frac{a}{T+a(v-1)}} e^{\frac{\sqrt{a}}{2}(T+a(v-1))}$
 $\xi = \frac{a^2}{\mu}$ $\Delta \xi = 6a$

adju $n = 15$ -re $\mu = 2894,74$ $\xi = 0,0020632$
 by $\mu = 3,4616098$ by $\xi = 0,9145450 - 3$
 $\frac{a}{2} = 4,4$

MASYAR
 TUBONGA OF AKADEMIKA
 KONVITARA

Ms 5105/16

Vaschlindsa
Vannijer esé.

Förés mutató meghatározása feljádi-

Körm. Műszer és eljárás

Magnesseje variometer

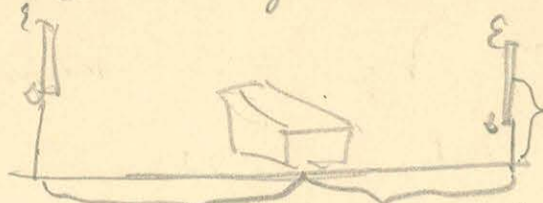
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KÖNYVTÁRA

Febrius 9.

Törvény Varrkőművel

fejcsapás 1,5593 Törp 20° ceter

hát oldalon két nyeres I és II felület Enkel p...
E



dimenzió megadása = 4,6 centiméter

Törvény = 166° 40'

6 h	37m 200	141,0	
	44m 200	349,8	208,8
	52 30	282,0	67,8
7 h	0 200	302,0	20,0
	4m 0	207,2	6,2
	11m 0	207,4	
	19m 0	208,0	
	22m 0	314,4	106,4
	44m	220	75
	8 8m	225	
	15m	325,0	

9 h este 10 h 31m 365,2 l=20° 2

Ures

Törvény 10 h 10 min reggel napközbeni

üldözés

Törvény 165°

8 h 16m 20 230,2 l=20° 1

24m 200 344,0

9 h 25m 326,0

45m 326,0

összesen 226,0

Törvény 166°

9 h 54m 384,8

10 h 3m 374,0

11m 381,0

15m 381,2

11 h 0m 388,2

összesen 388,2 11 h. 0 m

Febrius

Telas 11h. 2m 2³ kendri.

11h. 5m 389,0) 16
 10m 373,0) 25
 15m 338,0) 55
 20m 282,6) 55

tele peng 24m Tele peng alatan 22,0 Cent.
fontan

25m 210,0
 11h. 28m 177,4 x
 35m 206,2 x
 48m 197,0 x 198,8 11h. 40m

Pisiran kendri 11h. 46 m
Kiprah peng listrik!!!

11h. 58m
 12h. 5m
 Ures

12h. 8m 454,2 m intas.

12h. 13m 200 372,0
 22m 200 425,5
 32m 200 419,0 421 t=20° 2
 12h. 30m

Kiprah kendri 12h. 22
 tele 12. 12h. 54

11h. 0 388,2

11h. 40 198,8 11h. 45

12h. 30 421,0

12h. 30 218,7

1h. 20 422,2

12h. 58m 200. 202,2 x
 12 - 6m 200. 222,2
 - 19m 200 217,8 ⁴⁴

218,7 12h. 10

Pisiran kendri 12h. 35
 peng tele 12.

Ures

~~205,8~~
~~208,4~~
 { 205,8
 212,3
 208,4

1h. 27m 200 450,8 x
 35m 20 428,0 ^{25,8} 433,2 1h. 30

sewa peng 12h. 10m peng 12h. 10m

38m 422,0 x

48m 427,0

58m 431,2

2h. 0m 421,8

Ures

2h. 4h 25m 415,0 t=20° 3

40m 414

Fels. 10

Silvium

Vörs

ismélték kérvén	0. m.	4 h. 25 m	415,0	$t = 20^{\circ}$	
		40 m	414,0		<u>414,0</u> <u>414,0</u>

bejártok a kőszőlő 5 h. 5 m

<u>Telc</u>	5 h. 8 m	200,2
	16 m	217,0
	24 m	215,0

5 h. 20 216,0

hívóvatom

alkalmaz 5 h. 30 m

Vörs

5 h.	39 m	444,2
	48	416,0
	56 m	419,0

5 h. 50 m 418,5

hívóvatom 5 h. 57.
bejártok 6 h. 20 m.

Telc

6 h.	24 m	200	207,6
	32 m		204,0
	40 m	"	205,0

6 h. 40 m 205 p

hívóvatom Vörs

6 h.	55 m	452,0
7 h.	42 m	422,0
	12 m	422,0

7 h. 10 m 422

Telc

alkalmaz	7 h.	28 m
7 h.	42 m	207,4
	50 m	214,0
	58 m	211,0

7 h. 50 m 214,6

hívóvatom 8 h. 6 h. 6 h. 6 h. 6 h.

Vörs

8 h.	12 m	200	451,6
	28 m		425,4
	31 m		428,0

8 h. 30 = 426,7

205,8 kőszőlő - 3,8

212,3 + 2,7

208,4 - 1,2

200,3 - 9,3

208,0 - 1,6

215,2 + 5,6

217,7 + 4,1

212,8 + 3,2

1676,5 6417

kőszőlő = 209,6 213,7

hívóvatom kőszőlő

213,9

Erekshegy

éjtelki étalon 1 méter Török

a) étalon

8h	31	428		
	41m	358,8		
	49	374,0	15,2	egyenes
				<u>371,0</u>

étalon el.

9h.	1m	435,2		
	8m	432,2		
				egyenes <u>432,8</u>

b) Török

Török 166°-ra 163°-ra.

9h.	16m	30	242,2		
	25m	30	291,2	48,0	
	33m	30	280,8	10,4	egyenes
					<u>282,9</u>

Török 166°

10h.	27m		431,0		
	30		432	egy	432.

3 fura 149 erékhez 1/2-vel 49,6 $\alpha = 20^\circ$

Török 164°

Diff. 209,6 redővel 46 m erékhez

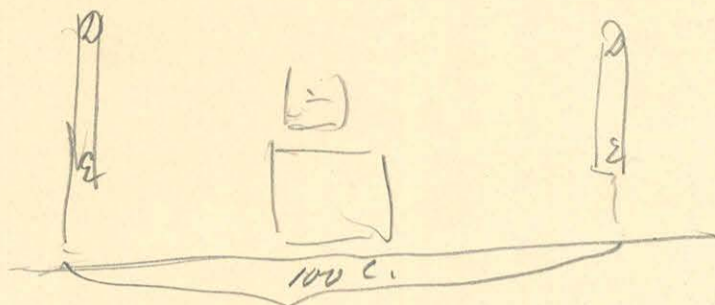
$$\left(\text{Diff} = 209,6 \cdot \frac{46}{49,6} = 194,4 \right)$$

Diff 8 $\text{Diff} = 213,9 \cdot \frac{46}{49,6} = 198,2$

Február 10-11 éjjel

este 10 1/2 óra. beállítások a két irányra

de polarisról fel.



toris körön igazítás 165° felvált 155°-ra váltás

Üres Toris 155°

Feb. 11 éjjel 10 h. $t = 20^{\circ}2$

50m	200	298,5	x	61,5	
54m	00	307,0	x		
57m	10	372,2	x	125,2	
11h 0m	100	350,0	x	22,2	
3m	-	363,0	x	13	
6m	-	356,9	x	6,1	
9m	-	360,0	x	3,1	összes 259,0
11h 17m	-	357,2			
21m	-	358,0			

Toris 149°

11h 25m		277,5			
11h 32m		297,4	x	14,6	
35m		312,0	x		
28m		302,5	x	9,5	
41m		308,8	x	6,3	
44m		305,6	x	3,2	összes 306,6

Toris 155°

Üres

54m	300	367,4	x	15,0	
37m	30	352,4	x		
12h 0m	300	360,9	x	8,5	
3m	30	356,2	x	4,7	összes 257,8

bejegyzés minden 12h. 4m képez 2/2. 162

Tele.

1h. 46m	300	352,0			
19m	30	350,9	x	2,1	
22m	30	352	x	1,1	összes 351,8

körönél elhárítottam 12 20 óra.

MAGYAR
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KÖNYVTÁRA

Ures

num moy
bedryat.
Janin 11 chm ryyd listriktom

Ures

Tomis hi 155°

l=19°4.

9h. 28m 384,0 } all. 384,0
9h. 31m 384,0

Tomis hi 145°

isichay 87,6

9h. 26m 20 328,0 } 42,5
40m 00 285,5 } 25,5
43 - 0 311,0 } 13,4
46m 0 297,6 } 7,4
49m 0 305,0 } 2,4
302,4

Tomis hi 155°

10h. 28m 384,0
31m 384,0
ayun 384,0

bebrosatun hendes 10 h. 31 nye sob hay utim
11h. 20h

Tele

11h. 20 - 376,8
23 - 377,7 } ayun 377,4

Nimmun hendes 22 m nye 11 30m

Ures

11h. 31m 385,2
34m 384,1
37m 384,5 } ayun 384,3

Doff 6,9

reduktivom ~~46,0~~ 46,0 isichaynye

Doff = $6,9 \frac{46,0}{87,6} = \underline{\underline{38,9}}$

Május névtár

Tonni 1670.

Úres

$\angle = 20^\circ 1$

11h. 51m	382,5		
59m	358,2	1	24,3
12h. 7m	364,4	6,2	<u>egyenlő 263,1</u>

befolytata kussal 12h. 8m elhívás 12h. 25.

Tele 42h. 4

12h. 40m	233,0	1,12	egyenlő 242,6	} 241,4.
48m	245,0	16	egyenlő 240,2	
56m	239,0			

Úres

1h. 17m	356,0		
25m	360,0	4	<u>egyenlő 359,2</u>

egyenlő Tele

1h. 56m	228,9	1,141	
2h. 4m	243,0		<u>egyenlő = 240,2</u>

Úres

2h. 24m	350,8	6,4	<u>356,0</u>
	357,2		

8m 119,4
118,4
117,4
Úres 118,4

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KÖNYVTÁRA

érellyig Tonni 1670

4h. 47m	252,8	}
51m	252,0	
55m	253,0	

Tonni hi 1640

5h. 11m	237,0	}	
19	228,0		9,0
21m	229,7		

Tonni hi 164

7h. 1m	229,0
78m	228
<u>Tonni 1670</u>	
7h. 48	358,0
56m	354,6

Tonni hi 1640

6h. 7m	354,0
19m	358,8

Februar 12. münden Türes

Regnet 9 h. 40 m

371,0

$2 = 10^{\circ} 2$

Urbelt mérések, momentums

40 cm táv

I lög II felhívás

~~618,3200~~
618,3190
619,5771

-0,8

40 cm.

1,2581
0,6290 gr.

0,6290 gr
617,05 C.S.S
526,5 · 10⁶

50 cm.

619,2130 -1,1
618,6922
20,5208
0,2604

$m_1 = 23,568$
 $m_2 = 23,007$
 $m_3 = 15,408$

0,2604 gr
255,45 C.S.S
532,3 · 10⁶

I lög III felhívás

40 cm
ford.

619,3800 -0,55
618,5419
0,8381 gr.

ford 0,4190 gr.

0,4190 gr.
411,04 C.S.S.
350,7 · 10⁶

50 cm
ford.

618,7822 -1
619,1298
0,3476
ford 0,1738

355,20,1738 gr.
170,50 C.S.S

II lög. III felhívás

50 cm
megford.

620,6820 -0,08
620,3386
0,3434
ford 0,1717

0,1717 gr.
168,44 C.S.S
350,8

40 cm
megford.

620,0980 +0,25
620,9316
0,8336
ford 0,4168

348,9
0,4168 gr.
408,88 C.S.S

MAGYAR TUDOMÁNYOS AKADÉMIA KÖNYVTÁRA

I János' magja 5 méterre

7 h. $44\frac{1}{2}$ 156,2 , 15 = 168,2
 $52\frac{1}{2}$ 171,2
 8 h. 1 m 166,5 , 4,7 egyenlő 167,5

megfordítás.

8 h 10 367,0 , 49,6 egyenlő 327,3 } $8h = 160,3$
 18 317,4 , 13
 26 300,4

Árnyék

25 m 232,6
 40 m 255,2 , 23,0
 57 m 249,0 , 6,2 egyenlő = 250,2

~~Ezen 5 méterre magja 5 méterre~~

Ezen a magja 5 méterre egyenlő megfordításul vagy 5 méterre $\frac{1}{147,02}$

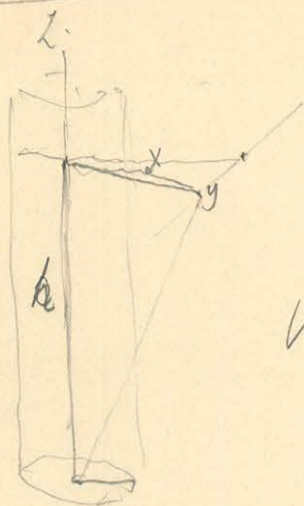
Megfordításul 10 méterre megfordításul 5 méterre láthatóan $\frac{1}{147,02}$ megfordításul.
 1 méter láthatóan 0,2572 méterre
 70 cent. láthatóan 0,05647 méterre
 50 cent. láthatóan 0,01474 méterre
 $\sqrt[10]{10}$ láthatóan 0,002352 méterre

A magja 1 méterre vagy 5 láthatóan $\frac{1}{147,02} = 0,006802$ vagyis látható

1 méter láthatóan 4,2572 vagyis látható
 70 cent. láthatóan 17,706 vagyis látható
 100 cent. láthatóan 68,019
 $\sqrt[10]{10}$ láthatóan 425,12 vagyis látható

1 vagyis megfordításul =

Thronia alai lapalona



$$r = \sqrt{x^2 + y^2 + a^2}$$

$$\cos \delta = \frac{a}{\sqrt{x^2 + y^2 + a^2}} = \frac{a}{r}$$

$$V = \pi \rho a \left\{ \frac{1}{2} \frac{a}{r} + \frac{1}{2.4} \left(\frac{a}{r} \right)^5 \frac{1.3}{1.2} \left(\cos^2 \delta + \frac{1}{3} \right) + \dots \right\}$$

$$V = \pi \rho a \left\{ \frac{1}{2} \frac{a}{r} + \frac{1}{16} \frac{a^5}{r^5} + \frac{3}{16} \frac{h a^5}{r^7} + \dots \right\}$$

$$X = -2\pi \rho a \left\{ \frac{a}{2} \frac{x}{r^3} + \frac{a^5}{16} \frac{x}{r^7} + \frac{3 h a^5}{16} \frac{x}{r^9} + \dots \right\}$$

$$x = l + \xi \quad y = 0$$

$$r_0 = \sqrt{l^2 + a^2}$$

$$r = \sqrt{l^2 + a^2 + 2l\xi}$$

$$r = r_0 \sqrt{1 + \frac{2l\xi}{r_0^2}}$$

$$\frac{1}{r^3} = \left(1 - \frac{3l\xi}{r_0^2} \right) \frac{1}{r_0^3} \quad l + \xi$$

$$\frac{1}{r^7} = \left(1 - \frac{7l\xi}{r_0^2} \right) \frac{1}{r_0^7} \quad l + \xi$$

$$\frac{1}{r^9} = \left(1 - \frac{9l\xi}{r_0^2} \right) \frac{1}{r_0^9} \quad l + \xi$$

$$X_{(l+\xi)} = -2\pi \rho a \left\{ \frac{a}{2r_0^3} \left(l - \frac{3l^2\xi}{r_0^2} + \xi \right) + \frac{5a^5}{16r_0^7} \left(l - \frac{7l^2\xi}{r_0^2} + \xi \right) + \frac{21h^2a^5}{16r_0^9} \left(l + \frac{9l^2\xi}{r_0^2} + \xi \right) \right\}$$

$$X_{(l)} = -$$

$$\Delta X = -2\pi \rho a^2 \left\{ \frac{\xi}{2r_0^3} \left(2 - \frac{6l^2}{r_0^2} \right) + \frac{5a^4\xi}{16r_0^7} \left(2 - \frac{14l^2}{r_0^2} \right) + \frac{21h^2a^4\xi}{16r_0^9} \left(2 - \frac{18l^2}{r_0^2} \right) + \dots \right\}$$

$$2\pi \rho a^2 M \quad P_x = \pi \rho M \frac{a^2}{r_0^3} \left\{ \left(1 - 3 \frac{l^2}{r_0^2} \right) + \frac{5}{8} \frac{a^4}{r_0^4} \left(1 - 7 \frac{l^2}{r_0^2} \right) + \frac{21}{8} \frac{h^2 a^4}{r_0^6} \left(1 - 9 \frac{l^2}{r_0^2} \right) \right\}$$

Új hengeres lencse Mirems 10. Dátum
Folyadékosítás a meridiánban.

$$a_1 = 4,90$$

$$l_1 = 14,9$$

$$a_2 = 5,05$$

$$l_2 = 14,95$$

$$\frac{a_1 + a_2}{2} = 4,95$$

$$\frac{l_1 + l_2}{2} = 14,93$$

Országos Fent.

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 4 \text{ h. } 51 \text{ m} & 219,0 \\ 5 \text{ h. } 0 & 240,0 \\ & 28 \text{ m} & 219,0 \\ & 26 \text{ m} & 220,0 \end{array} \right. \text{ ország } \underline{219,5} \text{ 5 h. } 26 \text{ m.}$$

$$\text{Tomis } 86^\circ \left\{ \begin{array}{ll} 6 \text{ h. } 0 \text{ m} & 379,0 \\ & 28 \text{ m} & 376,0 \end{array} \right. \text{ ország } 376,0 \text{ 6 h. } 28 \text{ m.}$$

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 7 \text{ h. } 17 \text{ m} & 212,0 \\ & 20 \text{ m} & 212,0 \end{array} \right. \text{ ország } 213,0 \text{ 7 h. } 18 \text{ m.}$$

$$\text{érellyes } \frac{160}{3} = 53,3$$

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Országos Lencs.

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 7 \text{ h. } 39 \text{ m} & 433,0 \\ & 49 & 440,8 \\ & 58 & 478,0 \end{array} \right. \begin{array}{l} 7,8 \\ 2,8 \end{array} \text{ ország } \underline{438,4}$$

$$\text{Tomis } 79^\circ \left\{ \begin{array}{ll} 8 \text{ h. } 24 \text{ m} & 219,8 \\ & 22 & 220,0 \end{array} \right. \text{ ország } \underline{220,0}$$

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 9 \text{ h. } 22 \text{ m} & 428,6 \end{array} \right. \text{ ország } \underline{428,6}$$

$$\text{érellyes } = \frac{218,6}{4} = 54,5$$

Országos Fent.

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 10 \text{ h. } 38 & 194,0 \end{array} \right. \text{ ország } 194,0$$

Országos Lencs.

$$\text{Tomis } 83^\circ \left\{ \begin{array}{ll} 10 \text{ h. } 50 \text{ m} & 466,5 \\ & 59 \text{ m} & 404,9 \\ & 8 \text{ m} & 419,0 \end{array} \right. \begin{array}{l} 61,6 \\ 14,1 \end{array} \text{ ország } 416,7$$

Március 11 péntek

Országos Tenz.

$\lambda = 17^{\circ} 4'$ Törés 83°	$\left\{ \begin{array}{l} \text{m} \\ \text{h} \\ \text{h} \end{array} \right.$	8h. 55m 441,0	$\tau = 18^{\circ} 6'$
		9h. 6 446,0	
		9h. 22m 422	
$\lambda = 19^{\circ} 2'$	$\left\{ \begin{array}{l} \text{h} \\ \text{m} \end{array} \right.$	9h. 44m 425,0	
		56m 426,0	
$\lambda = 20^{\circ} 3'$	$\left\{ \begin{array}{l} \text{h} \\ \text{m} \end{array} \right.$	10h. 52 421,2	

Országos Tenz.

11h. 10m	247,3
19m	234,8
28m	237,0

megkavatum az egyiket.

11h. 51	227,5
12h. 17m	227,0

márikat is megkavatum.

12h. 36m	222,0
50m	223,0

Két helyet jögyök tegye kint megfogottam.

12h. 56m	211,6
1h. 5m	214,0

1,5 milliméteres kövök vol.

Pontokba keltetve az ékkel.

Országos Tenz.

2h. 2m	204,0
4h. 26	207,0

egyes 207,0

Országos Tenz.

Számok
 225,0
 226,8
 232,4
 232,5
 230,0

4h. 37 1/2	338,1	$\left\{ \begin{array}{l} \\ \\ \end{array} \right.$	$\left\{ \begin{array}{l} 115,9 \\ 23,2 \end{array} \right.$
4h. 46 1/2	454,0		
55 1/2	490,8		

egyes 434,7

Országos Tenz.

5h. 6m	170,5	$\left\{ \begin{array}{l} \\ \\ \end{array} \right.$	$\left\{ \begin{array}{l} 48,3 \\ 7,6 \end{array} \right.$
16m	218,8		
26m	211,2		

egyes 212,5

Országos Tenz.

37m	201,8
5h. 47 1/2	238,0
6h. 57	442,0
14m	445,4
27	444

egyes 444,0

Országos Feszt.

6 h. 32m 162,6
 41m 218,6) 56,0
 50 209,2) 9,4
 összesen 210,7

Országos Feszt.

7 h. 27m 443,0
 25 444,5)
 összesen 444,5

Országos Feszt.

8 h. 6m 216,0
 219 összesen 218,5

Országos Feszt.

Március 11 est

9 h. 24m összesen 458,0 alighanem túl kicsi

Március 12. reggel 8 h. 22m 447,0 170,6 lehet jól!

29 1/2m 347,0 x

38m 483,0 x

48 452,0

9 h. 20m 456,5

28m 458,0

Június 83°

11 h. 52m 469

2 h. 0m 475,0

4 h. 22m 475,0

4 h. 40 467,0

5 h. 0 465,0

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5 óra összesen 465,0

Országos Feszt.

Június 83°

5 h. 54 226,0

6 h. 0 227,0

összesen 227,0

Június 86°

6 h. 8m 422,0

17m 380,0

30m 387,0

45m 389,0

Célközéppont $\frac{162}{3} = 54$

összesen 389

82°

6 h. 55m 130,8 x

7 h. 42 170,0) 39,2

Március 12

reggel 8 h. 172,0

2. sz. 4 h. 167,0

8 h. 172,0

2 = 17°6

Március 14 Dic. 11h. 34m 183,2 $\angle = 18^{\circ} 8$
Tomi 82° D. u. 5h. 26m 176,0

kezdeti hőmérséklet izz. h. $\angle = 13,93$

Tomi 83° 5h. 28m 231,0
5h. 57m 160,6

Felb

Febr. 20

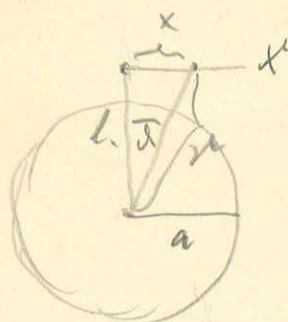
Komputáció

Nyílt henger módszer a
transzlacionális Felb. által képzett nyílt henger.

Egy



ρ felületi tömegsűrűség körny. által szelődés és
hővezetési ut. a hirtelen.



Tangensum

$$V = 2\pi\rho a \left(\frac{1}{2} \frac{a}{r} + \frac{1}{16} \left(\frac{a}{r} \right)^5 + \frac{15}{2^{10}} \left(\frac{a}{r} \right)^9 + \dots \right)$$

a kör. felület és

$$R = +2\pi\rho \left(\frac{1}{2} \frac{a^2}{r^2} + \frac{5}{16} \frac{a^6}{r^6} + \frac{135}{2^{10}} \left(\frac{a}{r} \right)^{10} + \dots \right)$$

ha $\frac{a}{r} = \frac{1}{2}$ akkor a harmadik tag = $\frac{135}{2^9} \left(\frac{a}{r} \right)^8 = \frac{135}{2^9} \frac{135}{2^9} = \frac{135^2}{2^{18}}$

hővezetési $\frac{1}{1000}$

első tag

$$R = +2\pi\rho \left(\frac{1}{2} \frac{a^2}{r^2} + \frac{5}{16} \frac{a^6}{r^6} \right)$$

$$X' = 2\pi\rho \left(\frac{1}{2} \frac{a^2}{r^2} \cos^2 \delta \sin \delta + \frac{5}{16} \frac{a^6}{r^6} \cos^6 \delta \sin \delta \right)$$

$$\cos^2 \delta \sin \delta = \frac{t^2 x}{(t^2 + x^2)^{\frac{3}{2}}} \quad \cos^6 \delta \sin \delta = \frac{t^6 x}{(t^2 + x^2)^{\frac{7}{2}}}$$

$$X = \pi\rho \frac{a^2 x}{t^2} \left(\frac{1}{(1 + \frac{x^2}{t^2})^{\frac{3}{2}}} + \frac{5}{8} \frac{a^4}{t^4} \frac{1}{(1 + \frac{x^2}{t^2})^{\frac{7}{2}}} \right)$$

er. kifejtés után

1. rész

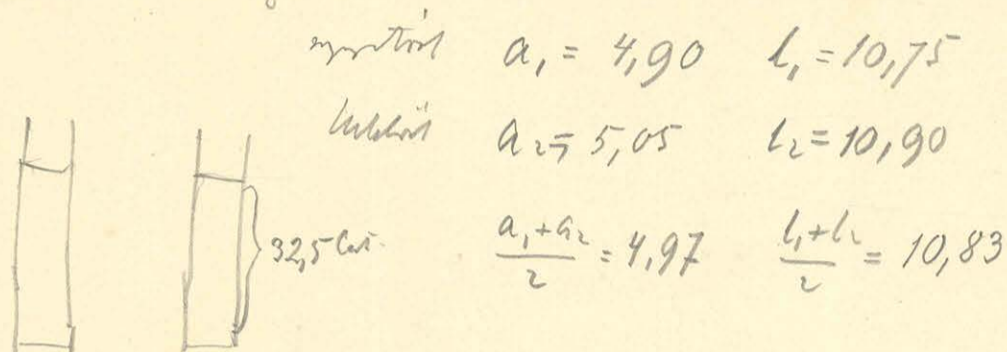
$$X' = \pi\rho \frac{a^2 x}{t^2} \left\{ \left(1 + \frac{5}{8} \frac{a^4}{t^4} \right) - \left(\frac{3}{2} + \frac{35}{16} \frac{a^4}{t^4} \right) \frac{x^2}{t^2} + \left(\frac{15}{8} + \frac{315}{64} \frac{a^4}{t^4} \right) \frac{x^4}{t^4} - \left(\frac{105}{48} + \frac{3465}{384} \frac{a^4}{t^4} \right) \frac{x^6}{t^6} + \left(\frac{945}{384} + \frac{45045}{3072} \frac{a^4}{t^4} \right) \frac{x^8}{t^8} - \dots \right\}$$

ka x a potence fel la vata $M = 2px$

$$P_x = \pi \rho \frac{a^2}{l^3} M \left\{ \left(1 + \frac{5a^4}{8l^4}\right) - \left(\frac{3}{2} + \frac{35a^4}{16l^4}\right) \frac{x^2}{l^2} + \left(\frac{15}{8} + \frac{315a^4}{64l^4}\right) \frac{x^4}{l^4} - \dots \right\}$$

Măsură în secțiune $\frac{x}{l} = \frac{1}{5} d$ $P_x = 0,05890 M.V.K$

Pe lângă acestea încă se știe.



Împreună cu alți câțiva în jurul hârtiei
 și se vede că a fost în mod
 general în jurul hârtiei.

Februarie 20 1880 În oraș Crăi a vohicului Constanța
 Timpul în 108°

2 h. 6 m	329	
14 m	227	șirul 327,5
2 h. 5 m	327,0	all over 327,0

Alte date din aceeași zi = 1,4667, $l = 20^\circ$

Alte date Lent.

6 h. 3 m	247,4	114,6
11 m	232,8	
19 m	235,0	12,2
		șirul = 234,6

Alte date Febr.

$l = 20^\circ$

6 h. 38 m	418,4	9,8
46 m	428,2	
54 m	425,2	3,0
		șirul = 425,8

Șirul =

Tomis 108° Oldal. Lend.

7 h. 3 m	197,4	56		188,3 + 1,2
" 11 m	253,4			185,7 - 1,4
19 m	237,0	16,4	egyenl. 240,3	187,2 + 0,1

Oldal. Fent.

7 h. 51 m	426,0			
" 59 m	426,2		egyenl. 426,2	$\frac{187,1}{42,8} = 4,272$

King 187,1

Tomis 108°

Oldal. Lend.

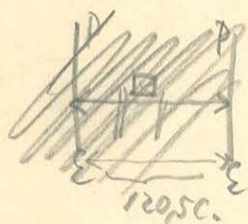
8 h. 7 m	195,8			
15 m	248,2	13,2	egyenl. 237,6	
23 m	235,0			

Tomis 112°

8 h. 31 m	455,0			} <u>érvényes</u> 1/10 = 43,8 oszt.
39 m	403,8	11,2	egyenl. 412,8	
47 m	415,0			

Tomis 108°

8 h. 54 1/2 m	194,2	54		
9 h. 2 1/2	248,2			
10 1/2	234,6	13,6	egyenl. 227,5	



Négy magvas lefelé 2 pörög

~~Magvas tüdőgyógyászati 120,5 literes lényűs 6025+6025~~

Magvas lefelé = 99,5 cent
Négy magvas!

Szék jövedelme Oldal. Lend.
Tomis 120°

MAGYAR
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KÖNYVTÁRA

Feb. 21 éjjel	1 h. 34 m 30 s	409,0	44,2
	40 m	364,8	23,0
	47 m	387,8	
	52 m 1/2	385,0	

Feb. 21 reggel

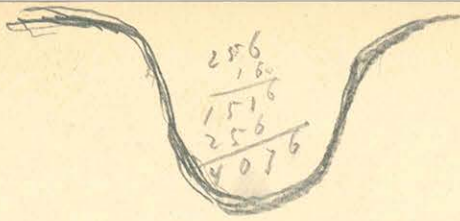
7 h. 56 m	454,8
8 h. 15 m	457,2

Tomis 120°

" 20 m	458,0	
9 h. 8 m	469,0	= első 20 m után halványosodás 469
27 m	468,6	

Tomis 110°

{	9 h. 57 m	217,0	16,3	
	57 m	223,3	12,1	egyenl. 211,7
	10 h. 3 m	221,2		érvényes 1/10 = 24,73



$$-R = 2\pi q \left(\frac{1}{2} \frac{a^2}{(l+x)^2} \right) \quad (I) \quad \text{II}$$

$$-R = 2\pi q \left(\frac{a^2}{2} \left(\frac{1}{(l+x)^2} - \frac{1}{(l-x)^2} \right) \right) + \frac{5a^6}{16} \left(\frac{1}{(l+x)^6} - \frac{1}{(l-x)^6} \right) + \frac{135a^{10}}{2^{10}} \left(\frac{1}{(l+x)^{10}} - \frac{1}{(l-x)^{10}} \right) + \dots$$

$$R = 2\pi q \left\{ \frac{a^2}{2l^2} \left(\frac{1}{(1+\xi)^2} - \frac{1}{(1-\xi)^2} \right) + \frac{5a^6}{16l^6} \left(\frac{1}{(1-\xi)^6} - \frac{1}{(1+\xi)^6} \right) + \frac{135a^{10}}{2^{10}l^{10}} \left(\frac{1}{(1-\xi)^{10}} - \frac{1}{(1+\xi)^{10}} \right) + \dots \right\}$$

$$\frac{1}{(1+\xi)^2} = 1 - 2\xi + \frac{2 \cdot 3}{1 \cdot 2} \xi^2 - \frac{2 \cdot 3 \cdot 4}{1 \cdot 2 \cdot 3} \xi^3 + \frac{2 \cdot 3 \cdot 4 \cdot 5}{1 \cdot 2 \cdot 3 \cdot 4} \xi^4 - \frac{2 \cdot 3 \cdot 4 \cdot 5 \cdot 6}{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5} \xi^5 + \dots$$

$$= 1 - 2\xi + 3\xi^2 - 4\xi^3 + 5\xi^4 - \dots$$

$$I = 4\xi + 8\xi^2 + 12\xi^3 + 16\xi^4 + \dots \quad \text{II} \quad \frac{6 \cdot 7 \cdot 8 \cdot 9 \cdot 10}{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5}$$

$$\frac{1}{(1+\xi)^6} = 1 - 6\xi + \frac{6 \cdot 7}{1 \cdot 2} \xi^2 - \frac{6 \cdot 7 \cdot 8}{1 \cdot 2 \cdot 3} \xi^3 + \frac{6 \cdot 7 \cdot 8 \cdot 9}{1 \cdot 2 \cdot 3 \cdot 4} \xi^4 - \dots$$

$$II = 12\xi + 162\xi^3 + 504\xi^5 + \dots$$

$$III = 20\xi + 2 \cdot \frac{10 \cdot 11 \cdot 12}{1 \cdot 2 \cdot 3} \xi^3 + 2 \cdot \frac{10 \cdot 11 \cdot 12 \cdot 13 \cdot 14}{1 \cdot 2 \cdot 3 \cdot 4 \cdot 5} \xi^5 + \dots$$

Két példára

$$R = 2\pi q \left\{ \left(2 \frac{a^2}{l^2} + \frac{35a^6}{4l^6} + \frac{675a^{10}}{256l^{10}} \right) \frac{x}{l} + \left(4 \frac{a^2}{l^2} + 35 \frac{a^6}{l^6} + \frac{7425a^{10}}{128l^{10}} \right) \frac{x^3}{l^3} + \dots \right.$$

$$\left. + \left(6 \frac{a^2}{l^2} + \frac{315a^6}{2l^6} + \frac{135135a^{10}}{256l^{10}} \right) \frac{x^5}{l^5} + 8 \frac{a^2}{l^2} \frac{x^7}{l^7} + \dots \right.$$

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Handwritten calculations and fractions:

- $\frac{125 \cdot 135}{256}$
- $\frac{5}{16} \cdot 504$
- $\frac{5}{4} \cdot 126$
- $\frac{5 \cdot 63}{2}$
- $\frac{2700}{1024}$
- $\frac{1350}{512}$
- $\frac{675}{256}$
- $\frac{675}{256}$
- $\frac{1}{40} + \frac{1}{12} + \dots$
- $\frac{135}{2^{10}} \cdot 11 \cdot 13 \cdot 14$
- $\frac{135}{2^8} \cdot 11 \cdot 13 \cdot 7$
- $\frac{10 \cdot 11 \cdot 12}{1 \cdot 2} \cdot \frac{135}{2^{10}} = \frac{55 \cdot 135}{128} = \frac{7425}{128}$
- $\frac{6 \cdot 6 \cdot 7 \cdot 5}{7425}$
- $\frac{147}{1001}$

$$\begin{array}{r} 69 \\ 46 \\ \hline 414 \\ 276 \\ \hline 876 \end{array} \Bigg| 38,9$$

$$\begin{array}{r} 3174 \\ 2448 \\ \hline 7260 \\ 6528 \\ \hline 7320 \\ 7744 \end{array}$$

$$\begin{array}{r} 209,6 \\ 46 \\ \hline 12576 \\ 8284 \\ \hline 496 \end{array} \Bigg| 194,4$$

$$\begin{array}{r} 95416 \\ 496 \\ \hline 4681 \\ 4464 \\ \hline 2176 \\ 1984 \\ \hline 1860 \end{array}$$

$$\begin{array}{r} 194,4 \\ 38,9 \\ \hline 233,3 \end{array}$$

116,7

$$\begin{array}{r} 212,9 \\ 46 \\ \hline 12834 \\ 8556 \\ \hline 496 \end{array} \Bigg| 198,2$$

$$\begin{array}{r} 98394 \\ 496 \\ \hline 4870 \\ 4464 \\ \hline 4060 \\ 3968 \\ \hline 920 \end{array}$$

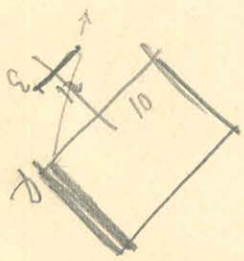
$$\begin{array}{r} 1982 \\ 389 \\ \hline 2371 \\ 118,6 \end{array}$$

МАТРИЦА АКАДЕМИИ НАУК
КОПИЯ

$$k''(a+b) - ka = k'(a-b)$$

$$= ka - k'(a-b)$$

$$(k'' + k')a - 2ka + (k'' - k')b = 0$$



$$\begin{array}{r} 50 \\ 125 \\ \hline 125 \end{array} \quad \begin{array}{r} 150 \\ 250 \\ \hline 5/300 \end{array} \Bigg| 0,66/37 \quad \underline{106}$$

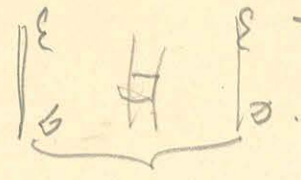
$$\begin{array}{r} 200 \\ 275 \\ \hline 240,8 \\ 240,2 \end{array} \Bigg| 100$$

$$\begin{array}{r} 217,6 \\ 240,2 \\ \hline 217,6 \end{array}$$

K. magyarszék

Kettő:

Febr. 21 Magyaros elvált helyen.
És utána jött felvált.



Folyadék Felt.

~~Törzs kör 42°~~ sűrűség csak hajlékony utána 1 órával 5 h. 30'.

Törzs kör 90°

5 h. 30 m	-	401,8		
			) 29,6	
37 1/2 m		372,2	) 12,0	
42 m		384,4	) 5,6	
46 1/2 m		378,8		<u>össen 280,5</u>

Törzs kör 85°

5 h. 52 m		263,5	) 53,5	
			) 25,8	
6 h. 0 m 1/2		291,2	) 11,4	
				<u>össen 299,1</u>

Törzs kör 90°

6 h. 9 m 1/2		415,0	) 51,2	
			) 22,8	
14 m		363,8		
18 1/2 m		387,6		<u>össen 380,1</u>

380,3
299,1
81,2
eredője
16,2

Folyadék Lent.

6 h. 28 1/2 m		296,0	) 32,8	
			) 16,6	
33 m		263,2		
37 1/2 m		279,8	) 8,0	
42 m		271,8		<u>össen 275,0 braviszék</u>

Febr. 22
t = 19°6.

d.e. 9 h. 58 m		270,0		
10 h. 27 m.		269,0		<u>össen 269,0</u>

Folyadék Felt.

11 h. 5 m		375,0	all	össen 375,0
10 m		375,0		

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Fugndich Lent.

11h. 25m 256,6, 14,6
 30m 271,2 = 266,4

$$\frac{106,0}{16,2} = 6,543$$

Fugndich Lent.

11h. 44m 352,8
 54m 366,8, 6,2
 59m 373,0, 4,5
 12h. 4m 368,5 = 370,0

105,1 - 0,9

107,4 + 1,4

106,1 + 0,1

105,4 - 0,6

Komp 106,0

Fugndich Lent.

Tonn 90°

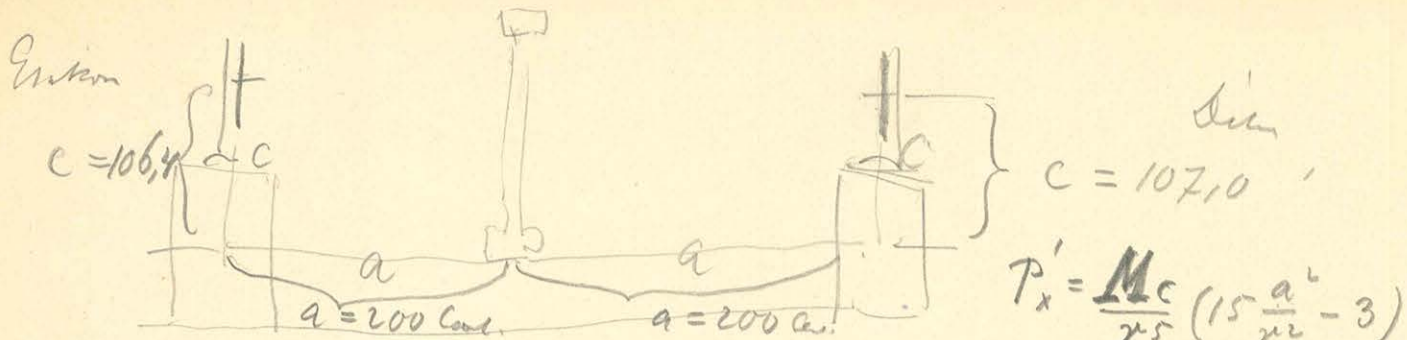
1h. 15m 262,7
 29m 265,0

Tonn 95°

1h. 44m 352,8, 12,8
 49m 340,0
 54m 347,0, 7,0 = 344,7

Tonn 90°

2h. 3m 282,2, 23,4
 8m 258,8
 12m 270,8, 12 = 266,8



hier gemessen & kalibriert.

$$P_x' = \frac{Mc}{x^5} (15 \frac{a^4}{x^2} - 3)$$

$$x^2 = a^2 + c^2$$

$$P_x' = \frac{1547}{10^6 \cdot 10^6} M$$

elastische abwärts in a maßstab, wesen

Folgende Werte

Torsion 108°	2. u. 5 h.	33 1/2 m	401,4	60,2
	"	41 m	341,2	
	"	49 m	355,0	13,8

Magnus Scler. putrescens lent.

Torsion 60°	{	6 h. 17 m	205,2) 35,8
		25 m	241,0	
		33 m	233,4		7,6	erg. 235,0

Torsion 64°	{	7 h. 36 m	414,2) 40,7
		44 m	410,0		erg. 410,8

Magnus Erakeri putrescens lent.

Torsion 154°	7 h.	54 m	270,5	) 40,7
		2 m	329,8	
t = 19%.	8 h.	10 m	316,0	) 12,8
		18 m	316,0		erg. 316,0

Ekalat Petela' witten Sun hij rekentun .

Wissunje uya ota telan .

1h. 51m	309,4	14,8	Spun 313,0
52m	314,2		
2. n. 4h. 16	311,0		

Minn's papirvorn etalon . meg' kuzi'enen .

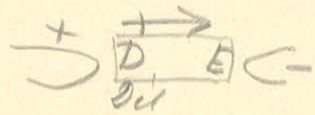
ada teri .

Tomi 140°	4h.	35m 1/2	401,4	179,2
		40 1/2	322,2	
		45 1/2	354,5		122,3
	5h.	12m	338	

Prezaten tnt .

§ -

+ Stokgijet skelonyon arans



Tomi 118°	5h.	16m	350,0
		22m	295,5
			312,0

§

Magyar nyelvészet , adatok

Tosini 140	}	5h. 35 1/2 m	362,8
		40 1/2	338,5
		Tel. 28. oldal 8 h. 48 m	338,0

MAGYAR
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14000

14000

14000 / 10000 = 14

14000 = 14

14000

147° 1/2

82° 1/2

17° 1/2

cx^2

$$\int_0^x cx^2 dx = M$$

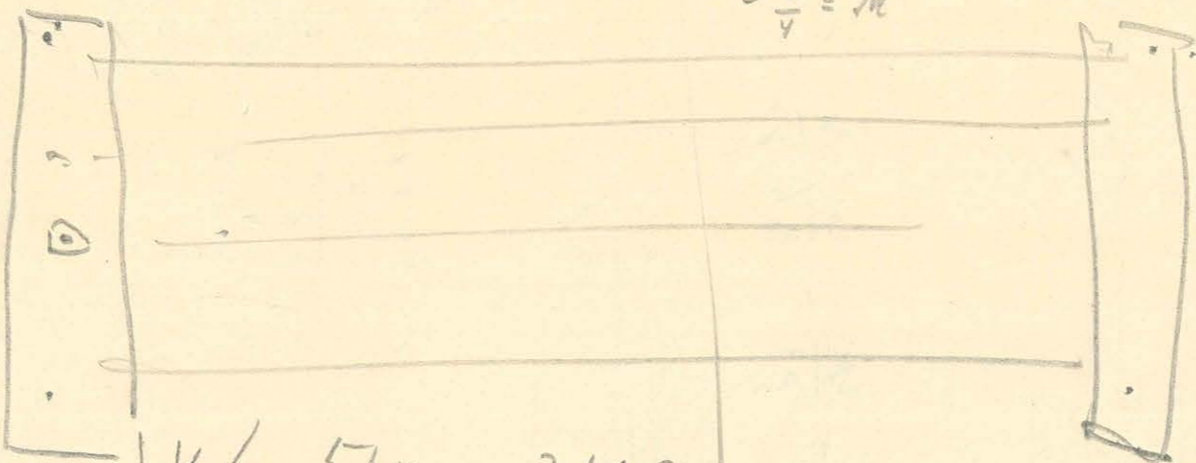
$$cx^3 = M$$

$$\int_0^x cx^5 dx$$

$$c \frac{L^6}{6} = \frac{2}{3} M d^2$$

$$\frac{1}{2} \frac{a^2}{r^2} \frac{x}{r}$$

$$\frac{105}{2^{10}} \cdot \frac{a^{10}}{(r)^{10}} \frac{x}{r}$$



Torny 83

4h. 57m	219,3	20,7
5h. 0m	240,0	
28m	219,0	
36m	220	

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$\frac{1}{4}$

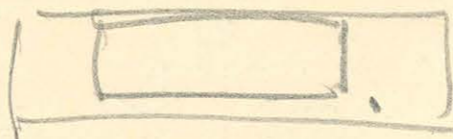
$\frac{1}{16}$

$2 \cdot \frac{1}{25}$

$\frac{7}{4} \cdot \frac{1}{9} \cdot \frac{2}{3}$

$\frac{1}{5}$

$\frac{14}{12} \cdot \frac{1}{9}$
 $\frac{14}{108}$



Torny 86

4h. 0m	379
28	376

92

3h. 154	224
20m 154	
29m 401,8	
59m 356,0	

116
105
21 10,9

93/113/1,22
200
140

Torny 82 7h. 17m 213

$$P_x = \frac{m A v k}{c} = C \cdot \delta$$

98
49

$$m \mu B = c \delta'$$

$$\mu \delta = h \gamma$$

$$\frac{m h \gamma B}{\delta} = c \delta'$$

$$\frac{1}{\delta} \gamma \cdot \frac{v}{h} k = \frac{\delta'}{\delta c}$$

$$\left(h + \frac{2M}{r^3} \right) \delta = \frac{2\mu}{\rho^3} - \frac{2\mu}{\rho^3 h} \frac{M}{r^3}$$

$$h \delta \left(1 + \frac{2M}{r^3 h} \right) = \frac{2\mu}{\rho^3} \left(1 - \frac{M}{r^3 h} \right)$$

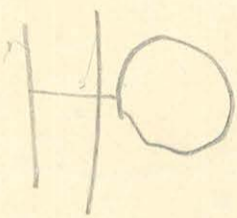
902 / 105 | 1139

$$\begin{array}{r} 922 \\ 1280 \\ 922 \\ \hline 3540 \\ 2766 \\ \hline 774 \end{array}$$

$$\frac{1139}{3}$$

$$\begin{array}{r} 4474 \\ 14 \\ \hline 17896 \\ 2474 \\ \hline 62636 \\ 313 \end{array}$$

μ
 $h' \delta =$
 $h' = \frac{46}{141} = \frac{2\mu}{10^6}$
 $\frac{v}{h'} = \frac{42.27^3}{2 \cdot 355^3}$
 $v = 2.54 h'$



$$\frac{a^1}{(b+a)^3}$$

$l = b + a$ $P_x = C.$

$0,05890 M v k = C. 4,272$

$0,1496 M h' k = C. 4,272$

$$\frac{2a}{(b+a)^3} - 3 \frac{a^2}{(b+a)^4}$$

$h' = \frac{61,3}{10^6} \mu$

$\frac{9,17}{10^6} M \mu k = C. 4,272$

$2a(b+a) = 3a^2$

$2ab = a^2$

$2b = a.$

$\frac{1}{8} \quad \frac{1}{8}$

$3 \frac{M \mu}{101^4} = C. 45$

$k =$

$\frac{4}{27} \quad \frac{1}{6}$

$$\begin{array}{r} 19687 \\ \times 2 \\ \hline 39366 \\ 78732 \\ \hline 826686 \end{array}$$

$$\begin{array}{r} 44739 \\ \times 7,5 \\ \hline 223695 \\ 203173 \\ \hline 225542 \end{array}$$

$$2255 \mid 826686 \mid 2,539$$

$$\begin{array}{r} 6510 \\ \hline 17568 \\ 16275 \\ \hline 12930 \\ 9765 \\ \hline 31650 \end{array}$$

$$\begin{array}{r} 2,54 \\ \times 589 \\ \hline 2286 \\ 2052 \\ 1270 \\ \hline 1496,06 \end{array}$$

$$4,6 \mid 282 \mid 61,3$$

$$\begin{array}{r} 276 \\ 60 \\ \hline 140 \end{array}$$

$$\frac{24}{10^6}$$

$$\begin{array}{r} 0,1496 \\ \times 61,2 \\ \hline 4488 \\ 1496 \\ 8976 \\ \hline 9,17048 \end{array}$$

$$102.100$$

$$104040000$$

$$\frac{9,17}{10^6} \frac{101^4}{3} K = \frac{4,272}{45}$$

$$\begin{array}{r} 9,17 \\ \times 104 \\ \hline 2668 \\ 9170 \\ \hline 1953,68 \end{array} \mid 217,9$$

66
16.

$$317,9 K =$$

$$\begin{array}{r} 15895 \\ 12716 \\ \hline 9,43055 \end{array}$$

$$0,024 M_k = 9,43055$$

$$14300 \mid 2,13600 \mid 0,00015$$

$$\begin{array}{r} 143 \\ \hline 706 \\ 715 \end{array}$$

$$0,024 M_k = C \cdot 4,272$$

$$\frac{90}{100 \cdot 10^6} M = C \cdot 0,75$$

$$\begin{array}{r} 1,07 \\ \times 281 \\ \hline 2889 \end{array}$$

$$\frac{2,4 \cdot 10^6}{90} K = \frac{4,272}{0,75} = 3,21$$

$$24 \mid 289 \mid 1$$

Március 6.

Kiegészítő mérések

Ülés

Távolság 82° 20'	{	1 h. 15 m	314,0	
		23 m	322,0	
		31	319,0	

golyó távolság 38,0 centiméter távolságra

Távolság 90°	{	1 h. 40 m	407,0	130,6	
		48 m	376,4	7,6	összesen 382,5
		56 m	384,0		
Távolság 88°	{	2 h. 5 m	274,6		összesen 294,0
		13 m	298,8	124,2	

megfigyelt vertikális távolságok között

Távolság 88°	{	2 h. 15 m	294,8	113,2	összesen 305,4
		23 m	308,0		
		2 h. 40 m	296,0		

megfigyelt vertikális távolságok között

47 m	320,2	17,4
55 m	312,8	
5 h. 3 m	312,4	

Plumbóval megfigyelt távolságok között

megfigyelt távolságok között

5 h. -	{	10 m	344,8	168,7	összesen 290,6
		17 1/2 m	276,1	18,1	
		25 1/2	294,2		

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újra megfigyelt távolságok között

5 h. 29	330,7	48,9
37	284,8	
45	298,2	12,4

Golyó alatt 29 centiméterre

Távolság 100°	{	6 h. 2 m	267,5	
		19 m	290,2	összesen 290,2
		27 m	290,2	

Távolság 101°	{	6 h. 34 1/2 m	340,2	
		42 1/2	328,0	15,2

összesen 331,4 eredmény 41,2

Meyraintan vis. u. tittinn.

6 h.	48 1/2	207,2	171,6	
	56 m	378,8		
	4 1/2 m	331,2	47,6	
200 kg rásur langir	x 12 1/2	3411,5	10,3	erpi 339,5
leikislagur og ristlingur	20%	541,0		
langur meyrinn	10 h. 0	325,0		

Meyraintan 7 regna 8 h. 0m 327,0

8 h. 24 m	324,0
9 h. 12 m	326,2
43 m	325,0
10 h. 12 m	<u>362,0</u>

meyraintan alig villtinn.

Bele trespentinnest.

10 h. 32 m	297,2	60,8	
40 m	301,0		erpi 345,2

Bele tinn vaspr.

Alur

Tornis 107,0	10 h. 54 1/2 m	451,0	225,2	
	11 h. 2 1/2 m	225,8	53,3	
	10 1/2 m	279,1	16,9	erpi 265,6
Guzzi' Del röt	18 1/2 m	262,2		

Carlina's Tinnvaspr

Tornis 1010	{	12 h. 26 m	370,0	Kortur lokkemur stinnan
		40 h	311,2	
		50 m 1/2	354,2	
		1 h. 0 m	347,0	
			erpi 348,0	

meyraintan þessu tinnu erpi 400 linnu.
meyraintan regna 2 h. 40 m.

Misura 7. Uj Pac meggato galya Zachinno megkeliyas
pasoval.

Galya del rot 35,5 C. Lavrosingham

Tornis 96° { 2h. 38m 312,7
 44 312,6
 4h. 43m 298,0

Statum, megfogottam megrotam

Tornis 96° { 4h. 56 1/2 201,2, 43,2
 5h. 7m 244,4, 56,2
 17m 238,8 240,0

Tornis 97° { 5h. 27m 309,0, 117, 294, 54m.
 57m 292,8
 6h. 29 289,0

Galya lent, 27,0 centimetre

Tornis 125° { 7h. 9m 348,8
 " 17m 357,0

Tornis 123° { 27m 228,4
 35m 251,0

Galya inra del rot 35,5 C. Lavrosingham

Tornis 97° { 7h. 40m 293,5
 8h. 50m 298
 10m 294 294

Statum lives

Tornis 82° { 8h. 30m 307,8x

Főtér 290°

Tűrés ~~tűrés~~

Mérvés 8. Tűrés 50 } nyírt 8 h. 186
 } 10 h. 220 köpöl literis.

golyó átmérő 149 milliméterre v. közelebb kinyújtás
 147 milliméterre v. adu jai
 145 " " " " " " " " " " " "

Ukát 147 m - a helyen társítóg

ha a helyen mérvés mondatban M állás

$$\frac{M}{147} = H$$

Meghatározás

A golyó átmérő alászáma 35,5 C.

Mérvés 1 méterre	196,0	Szögelmérvés	141,0°	Kálalás
Diff 942	288,0	" " "	" " "	" " "
	<u>195,6</u>	" " "	" " "	" " "

Meghatározás 100 centiméterre a kálalás mérvés

Mérvés 1 méterre	194,0	Szögelmérvés	134,0°	Kálalás
Diff = 100,0	294,5			
	<u>195,0</u>			

A kálalás mérvés

Főtér 20°

Tűrés 82° tűrés } 6 h. 2m 252,8
 } 11m 277,8

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Főtér mérvés kálalás mérvés 101 cent

Szögelmérvés Tűrés 150° } 7h. 57m 397,4 128,4
 } 8h. 5 425,8 } 8,8 mérvés 418,6
 } 13m 417,0 }
 Tűrés 146° } 11h. 296,5 } Diff = 182,1

Mérvés Észak felé

Tűrés 16° - 236,0

Tűrés 150° } 7h. 24m 367,0
 } 8h. 20m 231,0
 } 6h. 20m 207,0
 } 7h. 24m 367,0
 } 8h. 20m 321,0
 } 10h. 8h. 10m 567,0

$$- \frac{A}{(B + \sqrt{A^2 + B^2 + C^2})} \left\{ \frac{C}{\sqrt{A^2 + B^2 + C^2}} + \frac{(B + \sqrt{A^2 + B^2 + C^2})}{\sqrt{A^2 + B^2 + C^2}} \right\} + \frac{2AC}{(A^2 + C^2)^2}$$

6

$$\frac{12 \text{ m}}{100 \text{ m}} = 1 \text{ h.}$$

$$\frac{12}{100 \text{ m}} =$$

$$\frac{12}{100 \text{ m}} : 0,2352$$

$$\frac{12 \cdot 0,2352}{100 \text{ m}} : 1 = 0,09172 : 52$$

$$0,09172 \text{ KVM} = C \cdot 52,5$$

$$\frac{12 \text{ m}}{100 \text{ m}} = C \cdot 4,25$$

$$\frac{KV \cdot 9172000}{12} \quad KV = \frac{52,5}{4,25}$$

$$KV = \frac{148,4}{9172000}$$

$$9172000 / 148,400 = 0,0001518$$

$$\begin{array}{r} 91720 \\ \hline 56680 \\ 45860 \\ \hline 55032 \\ \hline 16480 \\ 9172 \\ \hline 73080 \end{array}$$

$$\begin{array}{r} 1050 \\ 525 \\ \hline 425 \overline{) 650,0} \quad | 148,4 \\ 425 \\ \hline 2050 \\ 1700 \\ \hline 3500 \\ 2975 \\ \hline 1600 \end{array}$$

Tele

4h. 36 293,8

Uros

4h. 47m 366,8

55m 250,4

16,4

Uros 353,7

Uros 69,0

Tomo

7h. 14 358,0

Uros

10h. 24 - 364,0

28 262,8

Uros

Tele Tomo 1670

10h. 40m 20. 288,2

51m 20. 295,2

59m 20. 294,0

Tomo 1650

11h. 42

219

Tomo 1690

22m. 372,0

153

37 373,2

Tomo 1640

21m. 4h. 32

376,0

44

375

Tomo 1650

152

6h. 0m

223

41

4 / 152 / 38

MAGYAR TUDOMÁNYOS AKADEMIA KÖNYVTÁRA

400 291 6.

CCC

200 28 48 20

Vandenberg Table 5

Arms firing $i = 22,8$ Anger

7h 17 1/2 m	318,5 x
20 m	325,0
22 1/2 m	336,6
25 1/2 m	unspecified
32 m	377,0
39 m	382,0

very tough

Arms near firing
roughly

Arms

Town 205,440' approx

Town 167°

8 h 10 m	498,0	153,8	
17 1/2	344,8		
25 1/2	384,8	40	376,8

Town 166°

33 1/2	324,0	115	326,3
41 1/2	339,4		
59			336,0

Base of Vandenberg

et al. about

32 m	352	
40 m	371,4	120,6
48 m		

8 h 8 m	272,8	113,4	283,5
16 m	286,2		52,5
24 m	282,0	142	282,9

Arany Arany

94 48 326

56 Képek

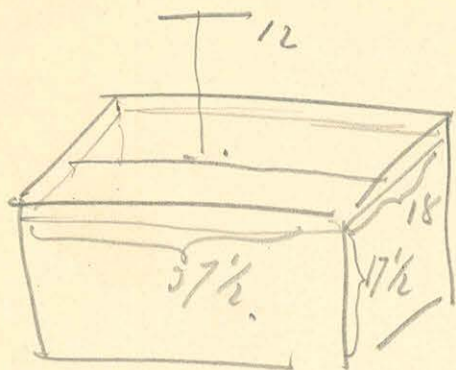
57 hrs 465 net 11 hrs

Arany Arany

10 h 2 1/2 287,2 158,8

10 356,0

egyenl. 344,2



2,575765 1,287887
 3,114844 1,557422

$$\frac{A}{A^2 + 6^2}$$

$$\frac{A}{A^2 + 144}$$

$A = 0$	0	
$A = 1$	$\frac{1}{145}$	
$A = 10$	$\frac{10}{245}$	$\frac{1}{24}$
$A = 100$	$\frac{100}{10144}$	

$$\frac{1}{A^2 + c^2} - \frac{2A^3}{(A^2 + c^2)^2} = 0$$

$$A + c^2$$

$$\sigma \mu \left(\log \frac{B + \sqrt{(A-x)^2 + b^2 + c^2}}{B + \sqrt{(A+x)^2 + b^2 + c^2}} - \log \frac{\sqrt{(A-x)^2 + b^2 + c^2}}{\sqrt{(A+x)^2 + b^2 + c^2}} \right)$$

$$A = 8 \quad C = 10$$

$$x = 3$$

$$b^2 + 8^2 = 10^2$$

$$b = 6$$

$$\log \frac{8 + \sqrt{164}}{8 + \sqrt{200}} - \log \frac{\sqrt{164}}{\sqrt{200}}$$

$$\frac{07\frac{1}{2}}{12}$$

$$\frac{1}{100000}$$

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$$\frac{1}{200}$$

$$\frac{1}{3 \mu}$$

$$18$$

$$106.49$$

$$56$$

$$338.4$$

$$KV_p \text{ tagy } \left\{ \frac{C + \sqrt{(A-x)^2 + B^2} + C^2}{\sqrt{A^2 + B^2}} - \frac{C + \sqrt{(A+x)^2 + B^2} + C^2}{\sqrt{(A+x)^2 + B^2}} \right\}$$

$$-KV_p \left(\frac{2Ax}{(C + \sqrt{A^2 + B^2} + C^2)\sqrt{A^2 + B^2}} + \frac{2Ax}{A^2 + B^2} \right)$$

$$-KV_p \left(\frac{A}{(C + \sqrt{A^2 + B^2} + C^2)\sqrt{A^2 + B^2}} + \frac{A}{A^2 + B^2} \right)$$

19404
1875
28,159

187 34969
188 35344

$$A^2 = 81$$

$$A^2 + B^2 + C^2 = 576,5 \quad \sqrt{\quad} = 19,404$$

$$C^2 = 144$$

$$A^2 + B^2 + C^2 = 13021,75 \quad \sqrt{\quad} = 36,093$$

349,7
252,4

$$C^2 = 870,25$$

1875
54,842

351,5

~~$$A^2 = 81$$~~

$$B^2 = 351,5$$

felso tagy.

$$\left(\frac{9}{740,34} + \frac{9}{225} \right) + \frac{9}{0,012157} + 0,040000 = 0,00$$

Also tagy.

$$\frac{9}{1979,45} + \frac{9}{951,25} + 0,004547 + 0,009461$$

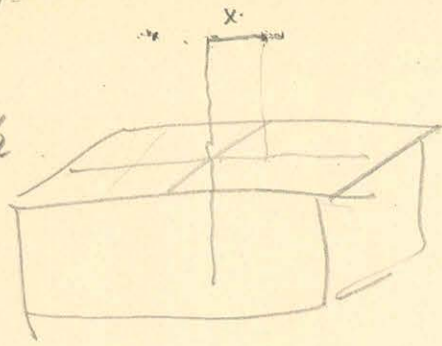
Also tagy. $0,014093$

felso tagy $0,052157$

össz $0,038064$

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$A = 15.9$
 $n = 18.75$
 $c = 12$
 $c' = 29 \frac{1}{2}$



kV
 $(A-x) \quad x=y$

$$kV \mu \left\{ \log \frac{B + \sqrt{(A-x)^2 + d^2 + c^2}}{\sqrt{(A-x)^2 + B^2}} - \log \frac{B + \sqrt{(A+x)^2 + d^2 + c^2}}{\sqrt{(A+x)^2 + B^2}} \right\}$$

$$- kV \mu \left\{ \log \frac{B + \sqrt{(A+x)^2 + d^2 + c^2}}{d + \sqrt{(A-x)^2 + d^2 + c^2}} + \log \frac{B + \sqrt{(A-x)^2 + d^2 + c^2}}{\sqrt{(A-x)^2 + c^2}} \right\}$$

87 220 140 16 70
 $A^2 + b^2 + c^2 + x^2 + 2Ax$

~~...~~
 $\frac{d}{dx}(x) = \frac{A^2 x}{(B + \sqrt{(A+x)^2 + d^2 + c^2}) \sqrt{(A+x)^2 + d^2 + c^2}}$

$$\frac{d}{dx} = \frac{1}{(B + \sqrt{(A+x)^2 + d^2 + c^2}) \sqrt{(A+x)^2 + d^2 + c^2}}$$

$$\frac{d^2}{dx^2} = \frac{1}{(d + \sqrt{(A+x)^2 + d^2 + c^2}) \sqrt{(A+x)^2 + d^2 + c^2}} - \frac{A+x}{\dots}$$

$$\frac{2Ax}{(B + \sqrt{A^2 + d^2 + c^2}) \sqrt{A^2 + d^2 + c^2}} + \frac{2Ax}{A^2 + d^2}$$

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$kV \mu$
 $\int_{-x}^{+x} \log \frac{d + \sqrt{(A+x)^2 + d^2 + c^2}}{\sqrt{(A+x)^2 + c^2}} - \log \frac{n + \sqrt{(A-x)^2 + d^2 + c^2}}{\sqrt{(A-x)^2 + c^2}}$
 $\frac{1}{1 + \frac{c^2}{A^2}}$
 $\frac{-1}{(1 + \frac{c^2}{A^2})^2} \frac{c}{A}$

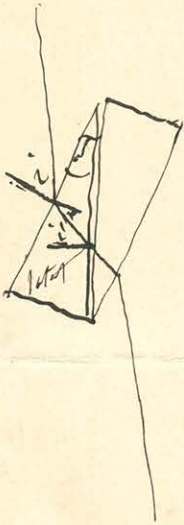
Ms 5705/17-19. Ertimo L. Nisellebi jessubei
Töös'neuteks'

3 kooder. bog.

MIA
VAGLO
7 17

Törismutatás Abbe féle módszer szerint folgyadékos

Total reflexió



$\sin i' = 1$ \checkmark törismutató üngöröl
folgyadékos

$i' = r + \mathcal{T}$

$\frac{\sin i}{\sin r} = n$ n törismutató üngöröl
üngöröl

üngöröl \mathcal{T} , n és i

üngöröl V

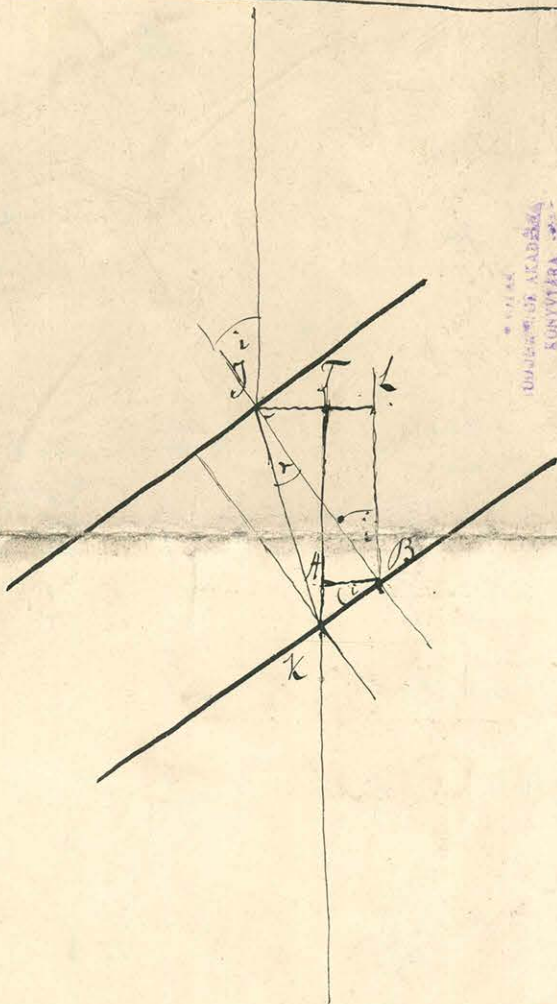
ke n törismutató üngöröl n folgyadékos

Abbe.

$$n' = \frac{v_L}{v_f} = \frac{v_L}{v_h} \cdot \frac{v_h}{v_f} = nV$$

$$n = \frac{\sin \frac{1}{2}(\mathcal{T} + \varphi)}{\sin \frac{1}{2}\varphi}$$

Törés mütéti kranus, a lin. eto to' de, but glamparallel kemisten



D kemparallél
 i beesési szöglet
 r törési szöglet

$$JL = JI + JI'$$

$$JL = D \sin i$$

$$JI = t$$

$$JL = AB = D \sin i$$

ahat

$$D \sin i = t + D \sin i'$$

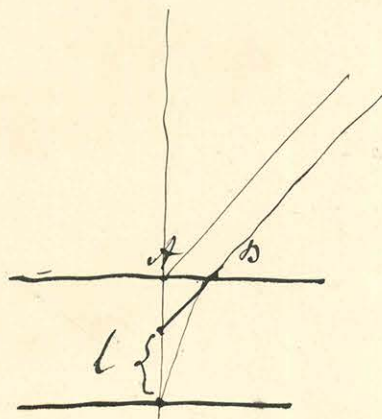
$$\sin i' = \frac{D \sin i - t}{D \cos i}$$

benneadós D t i

ha r ki van számítás:

$$n = \frac{\sin i}{\sin r}$$

Törés mütéti longitudinális eltolásból.



longitudinális eltolás
 $= l$

a kemparallél D

beesési szöglet i i, r
 törési szöglet r } kiirradiáció

$$\text{közvetlen } n = \frac{i}{r}$$

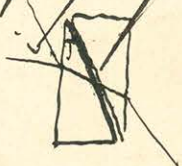
$$AB = (D - l) i \quad \{ (D - l) i = D r$$

$$AD = D r$$

$$\text{ahat } \frac{i}{r} = \frac{D}{D - l}$$

~~törés mütéti kranus, a lin. eto to' de, but glamparallel kemisten~~

~~törés mütéti kranus, a lin. eto to' de, but glamparallel kemisten~~

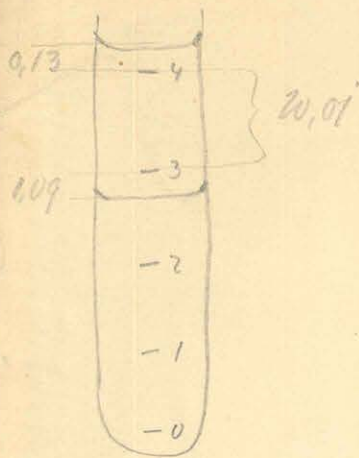


Ms 5105/18

Török művelés felgyökösítés-é
hangozása és vétkét

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aprotis 6.2 - Septenzylamine

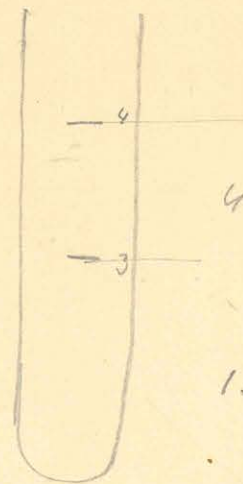


$$1 \text{ mm} = 234,3 \text{ mm}^2$$

$$(36972)$$

$$r = 2,636$$

$$(93629)$$



$$4687,74 \text{ kbm}$$

$$15089,4 \text{ kbm}$$

As alkohol mennyiség kiszámítása

$$u = a^2 r \pi - r^2 \pi h$$

$$15,3^\circ \text{ nat} \quad a^2 = 5,805 \quad \frac{r}{a} = 3,584 \quad \frac{h}{a} = 0,0238 \quad h = 0,0573$$

$$u = 157,49 - 13,43 = 142,06$$

$$(03) = 14976,1 + 1,09 \times 234,3 - \text{mennyiség} = \text{~~255~~}$$

$$14976,1 + 255,4 - 142,1 = 15089,4$$

Temp. 79,7

$$a^2 = 7,613 \quad \frac{r}{a} = 3,130 \quad \frac{h}{a} = 0,0434 \quad h = 0,1198$$

$$u = 206,54 - 28,05 = 178,5$$

$$\text{Fogadott térfogat } V = (03) + 0,64 \times 234,3 + \text{mennyiség}$$

$$= 15089,4 + 149,9 + 178,5 = \underline{\underline{15417,8 \text{ kbm}}}$$

Temp. 138,2

$$a^2 = 6,704 \quad \frac{r}{a} = 3,335 \quad \frac{h}{a} = 0,0331 \quad h = 0,0857$$

$$u = 181,88 - 20,08 = 161,8$$

$$V = (03) + 3,87 \times 234,3 + \text{mennyiség}$$

$$= 15089,4 + 906,6 + 161,8$$

$$V = \underline{\underline{16157,8}}$$

Temp. 253,7

$$a^2 = 5,030 \quad \frac{r}{a} = 3,855 \quad \frac{h}{a} = 0,0167 \quad h =$$

$$u = 136,46 - 8,76 = 127,7$$

$$\text{Fogadott térfogat } V = (03) + 11,70 \times 234,3 + \text{mennyiség}$$

$$= 15089,4 + 2741,0 + 127,7$$

$$V = \underline{\underline{17958,1}}$$

A 3. számú vizsga eredménye

Víz

Törtek

4,4 6,0
 4,5 5,9
 4,5 5,9

 4,45 5,92
 Érték = $\frac{10,38}{2} = 5,19$

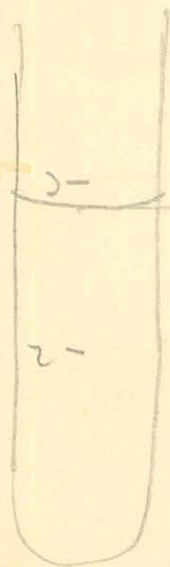
Szűz

Mérés 59,900 gr. Mérés 59,895 gr.

4,3 4,7 4,4 7,2
 4,3 4,7 4,5 7,1
 4,3 7,0

 4,45 7,10
 Érték = $\frac{11,55}{2} = 5,78$

5 mg = 1,28 osztás
 1 osztás = 3,9 mg
 0,5 gnd = 2,3 mg



66,21 66,20
 65,12 65,12
 1,09 1,08
 46,15 46,15

Mérés + 15 cm³ szűz = 59,8973 gr.

Mérés 15 cm³ szűz
 térf. 15,2

Törtek

4,2 5,1
 4,2 5,1
 4,2 5,1

 4,2 5,1
 Érték = $\frac{9,3}{2} = 4,65$

Szűz

Mérés 72,080 gr.

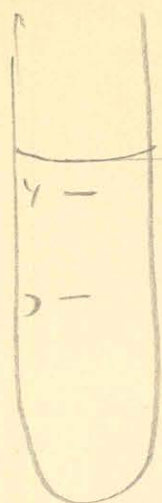
4,4 5,8
 4,4 5,7
 4,5 5,7

 4,45 5,73
 Érték = $\frac{10,18}{2} = 5,09$

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Mérés + 15 cm³ szűz = 72,0817 gr.

0,44 osztás = 1,7 mg



	52,67	52,67
4 -	52,54	52,54
	0,13	0,13
2 -	32,52	32,53
	20,01	20,01

20 cm³ Alkohol

Luft 15,4

Tarauf

3,6	5,2
3,6	5,2
3,7	
<hr/>	
3,60	5,25
Ergenb.	$\frac{8,88}{2} = 4,44$

Luft

Wasser 76,130 gr. Wasser

4,4	5,2
4,4	5,1
4,5	5,1
<hr/>	
4,45	5,13
Ergenb.	$\frac{9,58}{2} = 4,79$

0,350ml = 1,4 mg

Wasser + 20 cm³ Alkohol =
= 76,1314 gr.

Wasser + ~~Luft~~ Diphencylamin

Luft

Wasser 76,050 gr. Wasser 76,055 gr

4,6	5,4
4,6	5,4
4,6	
<hr/>	
4,6	5,4
Ergenb.	= 5,00

4,2	
4,3	5,6
4,3	5,6
<hr/>	
4,3	
4,27	5,6

Ergenb. = $\frac{9,87}{2} = 4,94$

3,2	4,2
3,2	4,2
3,2	
<hr/>	
3,20	4,20

Ergenb. = $\frac{7,40}{2} = 3,70$

Wasser + Diphencylamin = 76,0498 gr.

Wasser + Luft	= 59,8973
Diphencylamin - Luft	= 16,1525
Luft	= 0,193
<u>Diphencylamin</u>	<u>= 16,1718</u>

~~Wasser + Luft~~

Luft = 4,0 mg

0,060 ml = 0,24 gr.

$$\text{Nyersi} + \text{levegő} = 59,8973 \text{ g}$$

$$\text{Nyersi} + 15 \text{ cm}^3 \text{ alkohol} = 72,0817$$

$$15 \text{ cm}^3 \text{ alkohol} - \text{levegő} = 12,1844$$

$$\text{levegő} = 0,0188$$

$$15 \text{ cm}^3 \text{ alkohol} = 12,2032$$

$$\text{Nyersi} + \text{levegő} = 59,8973$$

$$\text{Nyersi} + 20 \text{ cm}^3 \text{ alk.} = 76,1314$$

$$20 \text{ cm}^3 \text{ alkohol} - \text{levegő} = 16,2341$$

$$\text{levegő} = 0,250$$

$$20 \text{ cm}^3 \text{ alkohol} = 16,2591$$

1893 apr 6. dilution 4h. Diphenylamin vij

Temp 16,7 Ellmatta 514,9

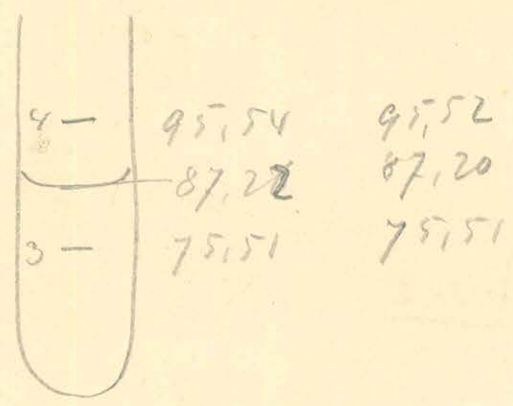
ypel 11h. 30m. Ellmatta 627,7 $t = 253,7$

pro central

$\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 40,5 \\ 81,5 \end{array} \left. \vphantom{\begin{array}{l} 40,5 \\ 81,5 \end{array}} \right\} 441,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 78,5 \\ 39,5 \end{array} \left. \vphantom{\begin{array}{l} 78,5 \\ 39,5 \end{array}} \right\} 439,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 45,5 \\ 86,0 \end{array} \left. \vphantom{\begin{array}{l} 45,5 \\ 86,0 \end{array}} \right\} 440,5$
 $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 85,0 \\ 46,0 \end{array} \left. \vphantom{\begin{array}{l} 85,0 \\ 46,0 \end{array}} \right\} 439,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 49,5 \\ 90,5 \end{array} \left. \vphantom{\begin{array}{l} 49,5 \\ 90,5 \end{array}} \right\} 440,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 39,5 \\ 49,5 \end{array} \left. \vphantom{\begin{array}{l} 39,5 \\ 49,5 \end{array}} \right\} 440,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 53,5 \\ 89,5 \end{array} \left. \vphantom{\begin{array}{l} 53,5 \\ 89,5 \end{array}} \right\} 441,0$
 $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 89,0 \\ 49,0 \end{array} \left. \vphantom{\begin{array}{l} 89,0 \\ 49,0 \end{array}} \right\} 440,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 54,0 \\ 94,5 \end{array} \left. \vphantom{\begin{array}{l} 54,0 \\ 94,5 \end{array}} \right\} 440,5$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 87,0 \\ 46,5 \end{array} \left. \vphantom{\begin{array}{l} 87,0 \\ 46,5 \end{array}} \right\} 440,5$

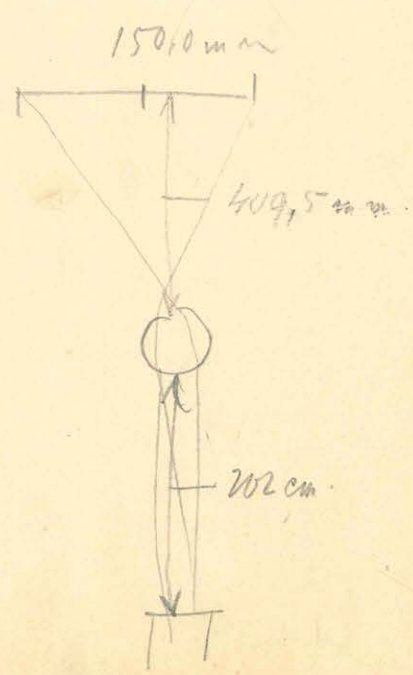
pro central

$\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 75,0 \\ 95,5 \end{array} \left. \vphantom{\begin{array}{l} 75,0 \\ 95,5 \end{array}} \right\} 420,5$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 94,0 \\ 75,0 \end{array} \left. \vphantom{\begin{array}{l} 94,0 \\ 75,0 \end{array}} \right\} 419,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 74,0 \\ 96,0 \end{array} \left. \vphantom{\begin{array}{l} 74,0 \\ 96,0 \end{array}} \right\} 422,0$
 $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 94,0 \\ 73,0 \end{array} \left. \vphantom{\begin{array}{l} 94,0 \\ 73,0 \end{array}} \right\} 421,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 78,5 \\ 99,0 \end{array} \left. \vphantom{\begin{array}{l} 78,5 \\ 99,0 \end{array}} \right\} 420,5$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 96,5 \\ 26,5 \end{array} \left. \vphantom{\begin{array}{l} 96,5 \\ 26,5 \end{array}} \right\} 420,0$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 78,5 \\ 98,5 \end{array} \left. \vphantom{\begin{array}{l} 78,5 \\ 98,5 \end{array}} \right\} 420,0$



Tuorimittala

$\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 41,1 \\ 54,8 \end{array} \left. \vphantom{\begin{array}{l} 41,1 \\ 54,8 \end{array}} \right\} 313,7$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 54,2 \\ 41,0 \end{array} \left. \vphantom{\begin{array}{l} 54,2 \\ 41,0 \end{array}} \right\} 313,2$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 39,0 \\ 54,0 \end{array} \left. \vphantom{\begin{array}{l} 39,0 \\ 54,0 \end{array}} \right\} 315,0$
 $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 54,7 \\ 41,0 \end{array} \left. \vphantom{\begin{array}{l} 54,7 \\ 41,0 \end{array}} \right\} 313,7$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 54,3 \\ 40,2 \end{array} \left. \vphantom{\begin{array}{l} 54,3 \\ 40,2 \end{array}} \right\} 314,1$ $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 39,5 \\ 54,0 \end{array} \left. \vphantom{\begin{array}{l} 39,5 \\ 54,0 \end{array}} \right\} 314,5$
 $\left(\begin{array}{l} - \\ - \end{array} \right) \begin{array}{l} 54,8 \\ 41,1 \end{array} \left. \vphantom{\begin{array}{l} 54,8 \\ 41,1 \end{array}} \right\} 313,7$



reggel 9h. apod 7.

Menallo 578,5

Törökmentés

dr 15,1) 290,7 v 5,6) 290,3 dr 15,6) 290,3
5,8

v 5,3) 289,4
15,9

Alro' uszkal

dr 15,0) 489,5 v 1,0) 489,0 dr 17,0) 489,0
4,5

v 3,0) 489,0 dr 17,0) 489,5
14,0

Felső' cirkul

dr 0,0) 508,0 v 6,0) 508,5 dr 2,0) 508,5
9,0

v 7,0) 508,0 3,5) 508,0
9,0

4	96,28	96,26
—	80,14	80,16
3	76,27	76,27
	3,87	3,89

t = 138,2

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Pomphatoroncia

dr 7,8) 1207,4 v 16,5) 1207,7 8,9) 1208,1
15,2

15mm koszma

v 31,2) 859,2 dr 11,8) 860,2 v 31,5) 859,4 dr 12,0) 859,5
12,0

est. g. h. om.
 Kőcsög
~~Kőcsög~~ csanak

Ellenőrzés 549,8

$\left(\begin{array}{l} \text{di } 84,5 \\ \text{di } 19,0 \end{array} \right) 534,5$ $\left(\begin{array}{l} \text{di } 88,5 \\ \text{di } 24,0 \end{array} \right) 535,5$ $\left(\begin{array}{l} \text{di } 20,0 \\ \text{di } 85,5 \end{array} \right) 534,5$
 $\left(\begin{array}{l} \text{di } 90,0 \\ \text{di } 26,0 \end{array} \right) 536,0$ $\left(\begin{array}{l} \text{di } 21,0 \\ \text{di } 87,0 \end{array} \right) 534,0$ $\left(\begin{array}{l} \text{di } 92,5 \\ \text{di } 27,0 \end{array} \right) 534,5$

Felső csuk magyon gerbe; alsó csuk nem ad csuk kőpél.

4-	96,68	96,68
	77,32	77,32
3-	76,68	76,69
	<u>0,64</u>	<u>0,63</u>

$\pm = 79,7$

Törzsmunka

$\left(\begin{array}{l} \text{di } 20,6 \\ \text{di } 59,0 \end{array} \right) 278,4$ $\left(\begin{array}{l} \text{di } 58,8 \\ \text{di } 20,2 \end{array} \right) 278,6$ $\left(\begin{array}{l} \text{di } 20,0 \\ \text{di } 58,4 \end{array} \right) 278,4$

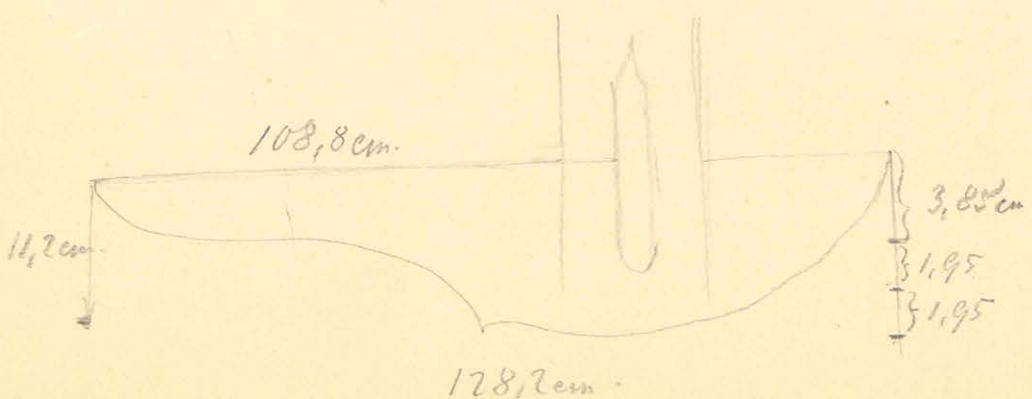
april 8. napl 11h. 50.

Ellenőrzés 576,5

Valamennyi esik gerbe

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4-	95,50	95,50
	79,13	79,14
3-	75,50	75,50
	<u>3,63</u>	<u>3,63</u>



Diphenylamin, $\text{HCl} (\text{C}_6\text{H}_5)_2$

$\mu = 168,64$ $m = 16171,8$

t	a	a ²	D	f	$\frac{\mu}{D}$	fD ²
79° 7	2,734	7,4747	1,0489	3,920	160,78	115,91
108° 2	2,540	6,4669	1,0008	3,236	168,49	98,73
253° 7	2,189	4,7917	0,9005	2,158	187,26	70,62

$70,62 : 0,227 = 564$ $\text{Kritikus} = 564^\circ$

$$585 \overline{) 17118} \quad | \quad 29$$

$$\underline{1170}$$

$$58$$

$$1155 \overline{) 28050} \quad | \quad 24$$

$$\underline{2310}$$

$$4850$$

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aprólé 6-i depremlerü

$$\begin{array}{r} 8576,5 = 76080 \\ 423,5 \quad 62685 \\ \hline 13395 \\ 30103 \\ \hline 43498 \end{array}$$

$$\begin{array}{r} 1549,8 = 74020 \\ 450,2 = 65341 \\ \hline 08679 \\ 30103 \\ \hline 38782 \end{array}$$

$$\frac{w_2}{w_0} = 1,1990 \quad t = 81,3 \quad \alpha t + \beta t^2 = 1,2035$$

$$t = 75,0 \quad " = 1876$$

$$t = 79,8 \quad " = 1999$$

$$\begin{array}{r} 2,7226 \\ 276 \\ \hline 2,6950 \\ w_0 = 2,6127 \\ \rightarrow 0,6823 = 0,83398 - 1 \\ 1 w_0 = 0,30378 \\ \quad 0,53020 - 1 \\ \quad 39041 - 3 \\ \hline 13979 \end{array}$$

$$\begin{array}{r} 2,4424 \\ 276 \\ \hline 2,4148 = 61724 \\ 2,0127 \\ 0,4031 = 60433 - 1 \\ 30378 \\ 30055 - 1 \\ 39041 - 3 \\ \hline 1,91014 - 1 \end{array}$$

$$t = 79,7$$

$$\begin{array}{r} \rho a^2 = 0,88156 \\ \rho r = 0,93629 \\ 49715 \\ \hline 2,31500 \end{array}$$

$$\begin{array}{r} 87506 \\ 39041 \\ \hline 26547 \end{array} \quad \begin{array}{r} 3,75012 \\ 77379 \\ \hline 8,52391 - 3 \end{array}$$

$$\begin{array}{r} 3,82028 \\ 77379 - 7 \\ \hline 8,59407 - 7 \end{array}$$

$$\begin{array}{r} \rho a = 44078 \\ \rho r = 93629 \\ \hline 0,49551 \end{array}$$

$$\begin{array}{r} 2,36972 \\ 0,80618 - 1 \\ \hline 2,17590 \end{array}$$

$$\begin{array}{r} 1843 \\ 33 \\ \hline 1876 \end{array} \quad \frac{39}{159} \times 6,3 \quad \frac{23,4}{2457:159} = 1,5$$

$$\begin{array}{r} 168 \\ 63749 - 2 \\ 44078 \\ \hline \rho h = 0,7827 - 1 \\ \rho r = 1,87258 \\ 49715 \\ \hline 1,44800 \end{array}$$

$$\begin{array}{r} 42 \times 35 \\ 126 \\ 210 \\ \hline 147' \end{array}$$

$$\begin{array}{r} 90200 \\ 39041 \\ \hline 29241 \end{array} \quad \begin{array}{r} 80900 \\ 77379 \\ \hline 57279 \end{array} \quad \frac{3}{36} \times 1,5$$

$$1961 \quad 4,5:36 = 0,1$$

$$1,1335 \times \frac{17,1}{66,8}$$

$$\rho a^2 = 82633 \quad \rho a = 41317$$

$$\rho r = 93629$$

$$\frac{0,52312}{0,52312}$$

$$\begin{array}{r} 1,1335 \times 17,1 \\ 79345 \\ 11335 \\ \hline 1938285 : 66,8 = 2902 \\ 1336 \quad 6,4136 \\ \hline 6022 \quad 67038 \\ 6012 \\ \hline 1080 \end{array}$$

$$\rho \frac{h}{a} = 0,51983 - 2$$

$$\rho a = 0,41317$$

$$\rho h = 0,93300 - 2$$

$$\rho r = 1,87258$$

$$49715$$

$$\hline 1,30273$$

$$\rho a^2 = 82633$$

$$\rho r = 93629$$

$$\frac{49715}{2,25977}$$

$$\begin{array}{r} 0,58771 \\ 2,36972 \\ \hline 2,95743 \end{array}$$

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$$410,4 \times \frac{10,7}{28,5}$$

$$\begin{array}{r} 4104 \times 10,7 \\ 28728 \\ 439128 : 28,5 = 1541 \\ 285 \\ 1541 \\ 1425 \\ \hline 1162 \\ 1140 \\ \hline 220 \end{array}$$

$$\begin{array}{r} 2,36972 \\ 1,06819 \\ \hline 3,43791 \end{array}$$

$$\begin{array}{r} 55 \times 22 \\ 110 \\ 111 \\ \hline 12 \end{array}$$

$$\begin{array}{r} \rho a^2 = 70157 \\ \rho r = 93629 \\ 49715 \\ \hline 2,13501 \end{array} \quad \begin{array}{r} \rho a = 35029 \\ \rho r = 93629 \\ 58600 \end{array}$$

$$\rho \frac{h}{a} = 22272 - 2$$

$$\rho a = 35029$$

$$\rho h = 57301 - 2$$

$$\rho r = 1,87258$$

$$49715$$

$$\hline 0,94274$$

$$\begin{array}{r} 15,418 \times 125 \\ 30836 \\ 77090 \\ \hline 0,001927250 \\ 11 \end{array}$$

Törzsmutató

$a = 75,0$
 $l = 409,5$
 $2R = 21,08$
 $R = 10,54$

$R = 1207,7$

$\{ 1207,7 = 3,08192$
 $\{ 15 = 1,17609$
 $4,25801$
 $\{ 859,2 = 2,93409$
 $1,32392$

$aV = 31999$

$\{ (l+R)R = 3,64609$

$(l+R) = 420,0$
 $\{ (l+R) = 2,62325$
 $\{ (l+R)^2 = 5,24650$
 $(l+R)^2 = 176400$
 $a^2 = 5625$

$\{ (l+R) = 2,62325$
 $\{ R = 1,02284$
 $3,64609$

$\otimes \times \frac{15}{859}$

$\frac{1207,7}{21,08}$

$\times \frac{1207,7}{1207,7}$

$\times \frac{21,08}{1207,7}$

93629
 30103

$((l+R) \cdot a^2) = 182025 = 5,26013$
 $\{ V = 2,63007$
 $\{ a = 1,87506$
 $\{ aV = 4,50513$

$\{ 2R = 1,32392$
 $\{ 2r = 1,23732$
 $\{ \frac{R}{r} = 0,08660$

$\{ (\frac{R}{r})^2 = 0,17320$

$x = 313,8 \quad R = 1207,7 \quad \text{temp } 253,7$

$\{ \frac{R}{r} = 0,17320$

$\{ m_3 = 0,37096$

$\{ (\frac{R}{r} \cdot m_3) = 0,80224 - 1$

$\{ sm_3 = 0,83812 - 2$

$0,64036 - 2$

$\{ x = 2,49665$
 $R = 3,08192$
 $\{ sm_2 = 0,41473 - 1$
 $\{ 200 = 3,30535$
 $0,10938 - 4$
 $\{ 21,08 = 1,32392$
 $0,43330 - 3$

$\{ R(l+R) = 3,64609$
 $\{ sm_2 = 0,41906 - 1$
 $3,06515$

31999

1162

$\{ 33161 = 4,52062$

$5,26013$

$4,26049 - 1$

$\{ \frac{R}{r} = 0,04369$
 $\{ (\frac{R}{r})^2 = 1,49004$

$\{ 0,95631 = 0,98060$
 $\{ V = 0,99030$

$\{ 1,44635 = 0,16027$

$\{ V = 0,08014$

$V = 1,20265$

$V = 0,97792$

$\{ 0,22473 = 0,35166 - 1$

$\{ sm_2 = 0,41906 - 1$

$0,77072 - 2$

$\{ m_3 = 0,18548$

$0,58524 - 2$

$\frac{10,497}{155}$
 $10,652$

$\rho - \gamma = 2,205$

$\epsilon = 15,216$

$17,427$

$\rho = 5,326$

$12,095$

$\{ \frac{x}{R} = 0,41473 - 1$

$\{ \frac{R}{r} = 0,08660$

$\{ \frac{R}{r} = 0,50133 - 1$

$\{ sm_2 = 0,32126$

$\{ m = 0,18007$

temp 79,7

$x = 278,4$

$\{ x = 2,44467$
 $3,08192$
 $0,36275 - 1$
 $\{ 400 = 3,60638$
 $0,75637 - 5$
 $1,32392$
 $0,08029 - 3$

$\{ R(l+R) = 3,64609$
 $\{ sm_2 = 36496 - 1$
 $3,01105$

51999

1626

$\{ 33025 = 4,51885$

$5,26013$

$0,25872 - 1$

$0,80224 - 1$

$\{ sm_2 = 0,72992 - 2$

$0,53216 - 2$

$0,03405$

$1,49004$

$\{ 1,45599 = 0,16316$

$\{ V = 0,08158$

$V = 1,20664$

$V = 0,98282$

$\{ 0,22382 = 0,34990 - 1$

$\{ sm_2 = 0,36496$

$0,71486 - 2$

18548

$0,52938$

$\frac{10,453}{69}$
 $10,522$

$\rho - \gamma = 1,939$

$\epsilon = 13,398$

$15,337$

$\rho = 5,261$

$10,076$

$0,36275$

$0,8660$

$0,44935$

24293

20642

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$0,43330 - 3$
 30103
 $0,13227 - 3$

$0,078$

$15,061$

$15,139$

$0,35166 - 1$

$41691 - 1$

$0,76857 - 2$

18548

$0,58309 - 2$

$2,194$

$15,139$

$17,333$

$5,326$

$12,007$

$0,50133 - 1$

38813

18320

Aprils 6. i Dipterylamini

1514,9 = 2,71172
 485,1 = 68583
 $\frac{0,02589}{30103}$
 0,32692

39041-3
 16,7 1,22272
 $\frac{0,61313-2}{1+2t=1,04103}$

$w_0 = 2,0127$
 $w_0 = 0,30378$

2,1229
 276
 $w_t = 2,0953$

$w_t = 0,32124$
 $w_0 = 0,01746$
 $w_0 = 0,30378$

1627,7 = 2,79775
 1372,3 = 2,57089
 $\frac{0,22686}{30103}$
 0,52789

$\frac{w_t}{w_0} = 1,6616$ $t = 269,3$
 $t = 250$
 $t = 253,8$
 $t = 253,7$

$\alpha t + \beta t^2 = 0,7047$
 " = 0,6514
 " = 0,6018
 " = 0,6016

$\frac{102}{533} \times 19,3$
 $\frac{19686}{4020} : 533 = 3,8$

3,3720
 276
 $w_t = 3,3444$
 $w_0 = 2,0127$
 $w_t - w_0 = 1,3317$

39794 479588
 39041 77379
 78835 56967

4,738
~~5,245~~
~~5,8~~
 7,6135

$w_t - w_0 = 0,12440$
 $w_0 = 0,30378$
 $\frac{0,82062-1}{39041-3}$
 2,43021

6193
 371
 40449 80898
 39041 77379
 79490 58297

486042
 77379-7
 0,63421-2
 431
 6016
 7047

6236
 382
 6618

$\frac{4}{104} \times 3,8$ $152 : 104 = 0,14$
 $\frac{104}{480}$

2578,5 = 2,76230
 421,5 = 2,62480
 $\frac{0,13756}{30103}$
 0,43853

$\frac{w_t}{w_0} = 1,3508$ $t = 142,5$
 $t = 135,0$
 $t = 138,5$
 $t = 138,2$

$\alpha t + \beta t^2 = 0,3629$
 " = 0,3425
 " = 0,3517

$\frac{83}{204} \times 7,5$
 581
 415
 $\frac{6225}{612} : 204 = 3,5$
 105

2,7449
 276
 2,7173
 2,0127

$\frac{w_t - w_0}{w_0} = \frac{0,7046}{0,30378} = 2,320$
 $\frac{0,54416-1}{39041}$

2,13033 4,26066
 39041 77379
 52074 03445

2,15375
 4,30750
 77379-7
 0,08129-2

3317
 0108
 3425

$\frac{9}{92} \times 3,5$
 $31,5 : 92 = 0,3$

0121
 3508

14145 28290
 39041 77379
 53186 05669

3403
 114
 3517

Víz csővek az ajtó 6. i. mélykénylőcsüvek

Expipipetta

Felső csőcsatlakozás

t = 16,2

(—)
(—)
dn 3,2) 768,8 vn 66,3) 768,8

dn 2,4) 769,1 dn 65,1) 768,3 r = 14,8

t = 16,3

Alsó csőcsatlakozás

(—)
(—)
dn 33,8) 735,7 vn 63,8) 736,6 dn 32,1) 735,2

dn 62,0) 736,5 dn 30,0) 735,8 t = 16,3

5. számú cső

Alsó csőcsatlakozás

12,32

(—)
(—)
dn 90,0) 724,8 vn 11,5) 727,5 dn 88,5) 727,7

dn 11,4) 728,0 dn 86,5) 727,5 t = 16,2

Felső csőcsatlakozás

(—)
(—)
dn 55,3) 760,7 vn 11,5) 764,5 dn 55,0) 764,5

vn 11,1) 764,0 t = 16,3

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Közepi csőcsatlakozás

(—)
(—)
dn 71,1) 743,0 vn 9,2) 744,1 dn 67,5) 743,5

vn 9,8) 744,3 t = 16,2

Törismutató

kemp 253,7

$\sigma = 15,061$

$\varepsilon - \sigma = 0,155$ 0,078

$\varepsilon = 15,216$ 15,139 $n = 1,525$

$\beta = 10,652$

$\beta - \gamma = 2,205$ 2,194

$x = 313,8$

$R = 171207,7$

kemp 79,7

$\sigma = 13,329$

$\varepsilon - \sigma = 0,069$

$n = 1,608$

$\varepsilon = 13,398$

$\beta = 10,522$

$x = 278,4$

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~~XXXXXXXXXXXXXXXXXXXX~~ 2. Kén-tervez

Víz

di 53,6) 341,1	v 35,6) 341,3	di 53,8) 341,6	v 35,3) 341,5
34,7	54,3	35,4	54,8
di 53,8) 341,6			
35,4			

20% glicerin

di 54,9) 312,4	v 7,2) 312,2	di 54,9) 312,2	v 14,0) 312,2
7,3	55,0	7,2	1,8

40% glicerin

di 1,0) 290,0	v 50,8) 290,5	di 0,7) 290,0	v 50,3) 290,0
51,0	0,3	50,0	0,3

60% glicerin

di 4,9) 271,0	35,9) 271,0	4,8) 271,1
35,9	4,9	35,9

80% glicerin

di 12,9) 253,0	di 5,2) 253,6	v 18,6) 253,8	di 4,9) 253,9
48,9	18,8	4,8	18,8

Glicerin

6,5) 240,5	v 7,5) 240,9	di 6,3) 240,9	v 7,3) 240,9
7,0	6,6	7,2	6,4

1-anilin 2 glicerin

di 6,0) 224,2	di 21,7) 224,4	v 6,0) 224,2
21,8	6,1	21,7

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1-anilin 1 glicerin

di 28,0) 212,1	v 0,3) 212,4	di 27,3) 213,7	v 1,0) 214,0
0,1	27,9	1,0	27,0
di 37,0) 213,0	v 0,1) 213,1	di 0,2) 213,0	v 0,2) 212,2
0,0	27,0	0,0	27,0

Bambin 1890

dr 18,0) 205,0
43,0

dr 43,2) 205,2
18,0

dr 18,0) 207,4
43,4

43,4
18,0) 205,4

Amelin

dr 39,0) 198,0
57,0

dr 57,0) 198,0
39,0

dr 39,0) 198,0
57,0

Amelin - Sandung

Korrekturen 1,594

dr 53,6) 194,5
39,1

dr 39,0) 194,0
53,0

dr 52,8) 193,9
38,9

dr 38,8) 194,0
52,9

Sandung

~~dr 1,8) 188,8
10,6~~

~~dr 10,4) 188,6
1,8~~

~~dr 1,6) 188,6
10,2~~

~~dr 10,2) 188,6
1,6~~

dr 27,1) 187,2
34,7

dr 34,7) 187,2
27,0

dr 26,8) 187,0
34,1

coll 9h 30

Ellenads = 523,2

juun 18. 1092

dr 11,1) 187,3
3,8

dr 3,9) 187,1
11,0

dr 11,1) 187,2
3,9

n = 1,624

coll 9h 30

Ellenads 586,2

t = 143,2

dr 53,8) 218,3
32,1

dr 32,0) 218,3
53,8

dr 53,8) 218,2
32,0

n = 1,517

1h. 0m

Ellenads 623,8

dr 35,8) 281,3
17,1

dr 17,6) 281,6
36,0

dr 35,8) 281,9
17,1

dr 17,6) 281,8
35,8

dr 34,2) 286,8
21,0

dr 20,6) 286,7
33,9

dr 34,0) 287,0
21,0

dr 21,0) 286,9
34,1

t = 235,4

n = 1,391

Ellenőrzés 65,4

R

30,6) 820,8
49,8

10,0) 221,0
51,0

Korrekció 639,9

Próbák = ~~11111111~~ 273,3

egyéb

Ellenőrzés 606,5

51,0) 243,2
54,2

53,8) 242,8
57,0

51,0) 243,0
54,0

53,9) 242,9
57,0

t = 189,6

n = 1,460

~~n = 1,456~~

egyéb 91,20

Ellenőrzés 548,6

6,6) 195,7
22,2

22,8) 196,2
6,6

6,6) 196,3
22,9

22,9) 195,3
6,6

t = 67,2

n = 1,588

Ellenőrzés 524,3

55,6) 187,3
2,9

3,0) 187,4
55,6

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R

53,8) 820,8
39,8

14,0) 820,7
33,3

287,8

1,391

W_2	1,324	341,5
20% Glycerin	1,259 ₁₂₈	212,0 122
40% Glycerin	1,287 ₁₂₅	290,1 119
60% Glycerin	1,412	271,1
80% Glycerin	1,427 ₁₂₇	252,9 13,1
Glycerin	1,464	240,8 116,5
1 Anteil 2 Glycerin	1,498	224,2
1 Anteil 1 Glycerin	1,522	212,0
1 Anteil 1 Glycerin	1,557	205,2
Anteil	1,581	198,0
Anteil in Anteil	1,594	194,1

~~21° 1,624~~ $l=0^\circ$ 1,641
~~67°~~ $l=142^\circ 2$ 1,517
 $l=225^\circ 4$ 1,391 Wasser

$$n = 1,641 - 0,000783t - \frac{3515t^2}{10^{12}} - \frac{27870}{10^{18}} t^5$$

$$\lg \frac{3515}{10^{12}} = 0,54594 - 9 \quad \lg 0,000783 = 0,89376 - 4$$

$$\lg \frac{27870}{10^{18}} = 0,44507 - 14$$

67,2° ra
 Summe
 1,588 | 1,588

189,6° ra
 Summe
 1,462 | 1,460

152° ra
 Summe
 1,507

$$\begin{array}{r} 582 = 76492 \\ 418 \quad 62118 \\ \hline 14374 \end{array}$$

$$\begin{array}{r} 13923 \\ 138 \\ \hline \end{array}$$

$$\{1,3785 = 0,13941 \\ \quad \quad \quad 00213 \\ \hline \quad \quad \quad 0,13698$$

$$\frac{wt}{w_0} = 1,3708$$

$$t = 140$$

$$at + bt^2 = 0,3556$$

$$t = 141$$

$$0,3688$$

$$t = 150$$

$$0,3879$$

$$\begin{array}{r} 1140 = 2,14613 \\ \quad \quad 39041-3 \\ \hline 0,53654-1 \end{array}$$

$$\begin{array}{r} 4,29226 \\ \quad \quad 77379-7 \\ \hline 51847 \\ 0,06605-2 \end{array}$$

$$\begin{array}{r} 1145 = 2,16137 \\ \quad \quad 39041-3 \\ \hline 0,55178-1 \end{array}$$

$$\begin{array}{r} 4,32274 \\ \quad \quad 77379-7 \\ \hline 0,09653-2 \end{array}$$

$$\begin{array}{r} 3440 \\ 0116 \\ \hline 3556 \end{array}$$

$$\begin{array}{r} 0,0125 \\ 3563 \\ \hline 3688 \end{array}$$

$$\begin{array}{r} 1150 = 2,17609 \\ \quad \quad 39041 \\ \hline 56650 \end{array}$$

$$\begin{array}{r} 4,35218 \\ \quad \quad 77379-7 \\ \hline 0,12592-2 \end{array}$$

$$\frac{20}{131} \times 5$$

$$100:131 = 0,9 \\ 979$$

$$\begin{array}{r} 3686 \\ 0133 \\ \hline 3819 \end{array}$$

$$\begin{array}{r} 1617,9 = 79092 \\ 382,1 \quad 58218 \\ \hline 20874 \end{array}$$

$$\begin{array}{r} 1,6171 \\ 138 \\ \hline \end{array}$$

$$\{1,6033 = 0,20501 \\ \quad \quad \quad 00243 \\ \hline \quad \quad \quad 0,20258$$

$$\frac{wt}{w_0} = 1,5943$$

$$t = 250$$

$$at + bt^2 = 1,6514$$

$$t = 240$$

$$1,6239$$

$$t = 230$$

$$1,5965$$

$$t = 225$$

$$1,5829$$

$$\frac{22}{136} \times 5$$

$$110:136 = 0,81$$

$$\begin{array}{r} 1210 = 2,39794 \\ \quad \quad 39041-3 \\ \hline 0,78835-1 \end{array}$$

$$\begin{array}{r} 4,79588 \\ \quad \quad 77329-7 \\ \hline 0,56967-2 \end{array}$$

$$\begin{array}{r} 1240 = 2,38021 \\ \quad \quad 39041 \\ \hline 0,77062-1 \end{array}$$

$$\begin{array}{r} 4,76042 \\ \quad \quad 77329-7 \\ \hline 0,53421-2 \end{array}$$

$$\begin{array}{r} 6143 \\ 371 \\ \hline 6514 \end{array}$$

$$\begin{array}{r} 5897 \\ 342 \\ \hline 6239 \end{array}$$

$$\begin{array}{r} t = 230 = 2,36173 \\ \quad \quad 39041-3 \\ \hline 647,2 \quad 75214 \end{array}$$

$$\begin{array}{r} 4,72346 \\ \quad \quad 77329-7 \\ \hline 0,49725-2 \end{array}$$

$$\begin{array}{r} 2,35218 \\ \quad \quad 39041 \\ \hline 74259 \end{array}$$

$$\begin{array}{r} 4,70436 \\ \quad \quad 77329 \\ \hline 47815 \end{array}$$

$$\begin{array}{r} 5651 \\ 314 \\ \hline 5965 \end{array}$$

$$\begin{array}{r} 5528 \\ 301 \\ \hline 5829 \end{array}$$

$$\begin{array}{r} 1602,8 = 78017 \\ 397,2 \quad 59901 \\ \hline 18116 \end{array}$$

$$\begin{array}{r} 1,5176 \\ 138 \\ \hline \end{array}$$

$$\{1,5038 = 0,17719 \\ \quad \quad \quad 00243 \\ \hline \quad \quad \quad 0,17476$$

$$\frac{wt}{w_0} = 1,4954$$

$$t = 190$$

$$at + bt^2 = 0,4882$$

$$t = 195$$

$$0,5017$$

$$\frac{63}{135} \times 5$$

$$315:135 = 2,3 \\ \frac{270}{450}$$

$$t = 192,7$$

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$$\begin{array}{r} 1190 = 2,27875 \\ \quad \quad 39041-3 \\ \hline 0,66916-1 \end{array}$$

$$\begin{array}{r} 4,55750 \\ \quad \quad 77379-7 \\ \hline 0,33129-2 \end{array}$$

$$\begin{array}{r} 1191 = 2,29003 \\ \quad \quad 39041 \\ \hline 68644 \end{array}$$

$$\begin{array}{r} 4,58006 \\ \quad \quad 77379 \\ \hline 35385 \end{array}$$

$$\begin{array}{r} 4668 \\ 214 \\ \hline 4882 \end{array}$$

$$\begin{array}{r} 4791 \\ 226 \\ \hline 5017 \end{array}$$

$$\begin{array}{r} 2647.3 = 2,81111 \\ 352.7 \quad 2,54741 \\ \hline 0,26370 \end{array}$$

$$\frac{w_t}{w_0} = 1,8713$$

$$t = 310 \quad at + pt^2 = 0,8788 \quad 141 \\ t = 305 \quad 0,8047$$

$$\begin{array}{r} 1,8352 \\ 138 \\ \hline 1,8215 = 0,26043 \\ 00243 \\ \hline 0,25800 \end{array}$$

$$\begin{array}{r} 310 = 2,49136 \\ 39041 - 7 \\ \hline 88177 \end{array}$$

$$\begin{array}{r} 4,98272 \\ 77379 - 7 \\ \hline 0,75651 - 2 \end{array}$$

$$\begin{array}{r} 305 = 2,48430 \\ 39041 \\ \hline 87421 \end{array}$$

$$\begin{array}{r} 4,96860 \\ 77379 \\ \hline 84239 \end{array}$$

$$\begin{array}{r} 7617 \\ 571 \\ \hline 8188 \end{array}$$

$$\frac{66}{141} \times 5$$

$$\begin{array}{r} 330:141 = 2,34 \\ 282 \\ 480 \\ 423 \\ \hline 570 \end{array}$$

$$\begin{array}{r} 7494 \\ 553 \\ \hline 8047 \end{array}$$

$$\begin{array}{r} 545,5 = 73679 \\ 454,5 \quad 65753 \\ \hline 08926 \end{array}$$

$$\frac{w_t}{w_0} = 1,1798$$

$$t = 70 \quad at + pt^2 = 0,1749 \quad 10127 \\ t = 65 \quad 0,1622$$

$$\begin{array}{r} 1,2002 \\ 138 \\ \hline 1,1864 = 0,07423 \\ 00243 \\ \hline 0,07180 \end{array}$$

$$\frac{49}{127} \times 5$$

$$\begin{array}{r} 245:127 = 1,9 \\ 127 \\ 1180 \\ \hline 1048 \end{array}$$

$$\begin{array}{r} 170 = 1,84510 \\ 39041 - 3 \\ \hline 0,23551 - 1 \end{array}$$

$$\begin{array}{r} 3,69020 \\ 77379 - 7 \\ \hline 0,46399 - 3 \end{array}$$

$$\begin{array}{r} 165 = 1,81291 \\ 39041 \\ \hline 20332 \end{array}$$

$$\begin{array}{r} 3,62582 \\ 77379 \\ \hline 39961 - 3 \end{array}$$

$$\begin{array}{r} 24,86 \\ 38,85 \\ \hline 13,99 \\ 33,34 \\ \hline 47,33 \end{array}$$

$$\begin{array}{r} 1720 \\ 29 \\ \hline 1749 \end{array}$$

$$\begin{array}{r} 1597 \\ 25 \\ \hline 1622 \end{array}$$

$$13,99$$

$$\begin{array}{r} 44,85 \\ 27,23 \\ \hline 17,62 \\ 13,99 \\ \hline 32,00 \\ 63,61 \end{array}$$

$$\begin{array}{r} 17,62 \\ 13,99 \\ \hline 23,99 \\ 24,29 \\ \hline 79,89 \end{array}$$

$$\begin{array}{r} 17,62 \\ 13,99 \\ \hline 23,99 \\ 40,68 \\ \hline 96,28 \end{array}$$

$$\begin{array}{r} 25,62 \\ 43,30 \\ \hline 17,68 \\ 17,62 \\ \hline 13,99 \\ 23,99 \\ \hline 39,29 \\ 112,57 \end{array}$$

$$\begin{array}{r} 55,57 \\ 39,29 \\ \hline 16,28 \end{array}$$

200

$$\begin{array}{r} 16,30 \\ 112,57 \\ \hline 128,87 \end{array}$$

$$16,26 \times \pi = 2000$$

$$\begin{array}{r} 10000 = 3,30103 \\ 16,26 = 1,21112 \\ \hline 2,08991 \\ 49715 \\ \hline 1,59276 \\ 0,79638 \end{array}$$

$$6,257$$

$$\begin{array}{r} 16,38 = 1,21431 \\ \pi = 0,49715 \\ \hline 1,71146 \\ 30103 \\ \hline 1,58957 \\ 0,79479 \end{array}$$

$$\tau = 6,234$$

$$23 \frac{1}{6}$$

$$\begin{aligned} \frac{R^2}{r} &= 0,1394398 \\ \frac{\sin^2 \delta}{r} &= 0,3755570 - 1 \\ \hline &0,5149968 - 1 \\ &0,3574722 \\ \hline &0,1575246 - 1 \end{aligned}$$

$$\begin{aligned} &1,3786 \\ &0,1437 \\ \hline &1,2349 \end{aligned}$$

$$\begin{aligned} 91,2349 &= 0,0916318 \\ &0,0458159 \end{aligned}$$

$$\begin{aligned} &1,1112 \\ &0,9253 \\ \hline &0,1859 \end{aligned}$$

$$\underline{0,14372}$$

$$\begin{aligned} \frac{1}{r} &0,85628 = 0,9326158 - 1 \\ &0,9663079 - i \end{aligned}$$

$$\begin{aligned} &.18 \\ \hline &130 \end{aligned}$$

$$\begin{aligned} \frac{1}{r} &0,1859 = 0,2692794 - 1 \\ \frac{\sin^2 \delta}{r} &= 0,6877785 - 1 \\ &0,9570579 - 2 \\ \frac{1}{n} &= 0,1787361 \\ \frac{\sin(\beta - \gamma)}{r} &= 0,7783218 - 2 \end{aligned}$$

$$\begin{aligned} \beta - \gamma &= 3^\circ 30' \\ \delta - \frac{\delta}{2} &= 22^\circ 18,5' \\ \hline &25^\circ 48,5' \end{aligned}$$

$$\frac{R}{r} = 0,0697199$$

$$\frac{x}{R} = \frac{0,6877785 - 1}{0,7574984 - 1}$$

$$\frac{\sin \alpha}{r} = \frac{0,6382406 - 1}{0,1187578}$$

$$\underline{n = 1,3145}$$

333

18

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$$\frac{\partial n}{\partial x} + x \frac{\partial n}{\partial x} = (n-1) + n - n \times \text{ctg. } \alpha \cdot \frac{\partial \alpha}{\partial x}$$

$$\frac{\partial n}{\partial x} = \frac{n}{x} - \frac{n}{\sin \alpha} \cdot \cos \alpha \cdot \frac{\partial \alpha}{\partial x}$$

$$\alpha = \delta - \frac{\nu}{2} + (\beta - \gamma) \quad \sin \delta = \frac{x}{R}$$

$$\text{tg } \phi = \frac{x}{D} = \sin \varphi - \text{altitude}$$

$$\alpha = \varepsilon - \frac{\nu}{2} + (\beta - \gamma) = \delta + \varphi - \frac{\nu}{2} + (\beta - \gamma)$$

$$\varepsilon = \delta + \varphi$$

$$\frac{\partial \alpha}{\partial x} = \frac{\partial \delta}{\partial x} - \frac{1}{2} \frac{\partial \nu}{\partial x} + \frac{\partial}{\partial x} (\beta - \gamma)$$

$$\cos(\beta - \gamma) \cdot \frac{\partial}{\partial x} (\beta - \gamma) = n_{23} \cdot \cos \varepsilon \cdot \left(\frac{\partial \varepsilon}{\partial x} + n_{23} \sin \varepsilon \left[\frac{\sin \varepsilon \cos \varepsilon \frac{\partial \varepsilon}{\partial x}}{\sqrt{\frac{R^2}{r^2} - n_{23}^2 \frac{r^2}{R^2} \sin^2 \varepsilon}} - \frac{\sin \varepsilon \cos \varepsilon \frac{\partial \varepsilon}{\partial x}}{\sqrt{1 - n_{23}^2 \frac{r^2}{R^2} \sin^2 \varepsilon}} \right] \right)$$

$$\cos(\beta - \gamma) \frac{\partial}{\partial x} (\beta - \gamma) = n_{23} \frac{\partial \varepsilon}{\partial x} \left[\frac{\sin \varepsilon \cos \varepsilon}{\sqrt{I}} - \frac{\sin \varepsilon \cos \varepsilon}{\sqrt{II}} \right] \cos \varepsilon$$

$$\cos(\beta - \gamma) \frac{\partial}{\partial x} (\beta - \gamma) = \frac{\sin(\beta - \gamma)}{\sin \varepsilon} \cos \varepsilon \cdot \frac{\partial \varepsilon}{\partial x} \rightarrow n_{23} \frac{R^2}{r^2} \sin \varepsilon \cos \varepsilon = \frac{\partial \varepsilon}{\partial x} \sin(\beta - \gamma) \frac{1}{\sqrt{I, II}}$$

$$\frac{R}{r} \left(1 - \frac{1}{2} n_{23}^2 \sin^2 \delta \right) - \left(1 - \frac{1}{2} n_{23}^2 \left(\frac{R}{r} \right)^2 \sin^2 \delta \right)$$

$$\left(\frac{R}{r} - 1 \right) + \frac{1}{2} \frac{R}{r} n_{23}^2 \sin^2 \delta \left(1 - \frac{R}{r} \right)$$

$$\frac{R-r}{r} \left[1 + \frac{1}{2} \frac{R}{r} n_{23}^2 \sin^2 \delta \right] \cdot n_{23} \sin \varepsilon$$

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28'8
31'1
152'2

28'8
31'1
152'2

28'2
31'3
153'1

28'6
30'0
152'4

28'5

22'5
25'0
152'5

Vörs törlése

X meghatározása

1) 45) 135	46) 133	43,5) 134,5	40) 132,5
2) 300) 134	33) 134,5	29) 135	27,5) 131,5
3) 16) 269	18,5) 267,5	14) 269,5	16) 264,0

39,5) 134	39,5) 133,5	38,5) 133,5	38,5) 132,5
25,5) 133,5	26,0) 133,5	25) 134,0	25) 133,5
12) 267,5	12,5) 267,0	11) 267,5	11,5) 267,0

38) 133,0	38,5) 135,5	59,0) 133,5
25,0) 134,5	23,0) 135,0	25,5) 133,5
10,5) 267,5	8) 270,5	12) 267,0

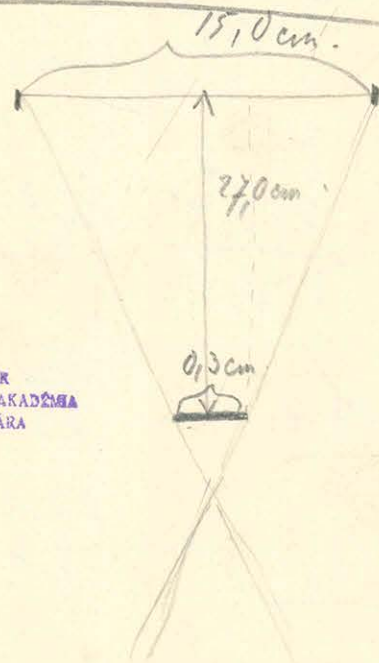
39,0) 130
26,0) 135
11,0) 268,0

$x = 267,25$

R meghatározása

13) 8,5) 715,5	20) 15,5) 714,5
15,0) 715,0	15) 715,0
20,0) 715,0	20) 715,0
21) 17,5) 716,5	20) 714,0
17,5) 716,5	14) 714,0
15) 712,0	
23) 712,0	$R = 714,5$
21) 714	
15) 714	

MAGYAR TUDOMÁNYOS AKADÉMIA KÖNYVTÁRA



Viisitoista mataloija.

1) ~~10~~ $4,8 \overline{) 240,4}$ $1,2 \overline{) 245,3}$ $5,9 \overline{) 241,8}$
 2) $4,4 \overline{) 240,4}$ $6,5 \overline{) 239,6}$ $4,1 \overline{) 234,6}$
 3) $1,1 \overline{) 243,3}$ $6,1 \overline{) 484,9}$ $59,5 \overline{) 485,4}$

$0,6 \overline{) 244,5}$ $59,8 \overline{) 243,4}$ $0,2 \overline{) 244,6}$
 $5,1 \overline{) 240,1}$ $3,2 \overline{) 241,9}$ $4,8 \overline{) 240,0}$
 $5,2 \overline{) 484,6}$ $5,1 \overline{) 485,3}$ $4,8 \overline{) 484,6}$

$5,0 \overline{) 242,2}$ $13,8$ $59,8 \overline{) 243,0}$ $485,2$ x viisitoista mataloija.

$6,0 \overline{) 221,5}$ $32,5 \overline{) 226,0}$ $4,1 \overline{) 222,6}$
 $47,5 \overline{) 225,4}$ $46,5 \overline{) 222,7}$ $46,7 \overline{) 225,4}$
 $32,9 \overline{) 446,9}$ $3,8 \overline{) 448,7}$ $32,1 \overline{) 448,0}$

$32,0 \overline{) 226,8}$ $4,1 \overline{) 222,6}$ $31,6 \overline{) 226,2}$
 $45,2 \overline{) 221,9}$ $46,7 \overline{) 225,5}$ $45,4 \overline{) 222,4}$
 $3,8 \overline{) 448,2}$ $32,2 \overline{) 448,1}$ $3,0 \overline{) 448,6}$

$4,0 \overline{) 221,9}$ $31,3 \overline{) 226,5}$ $2,7 \overline{) 222,9}$
 $45,9 \overline{) 226,0}$ $44,8 \overline{) 221,6}$ $45,6 \overline{) 226,3}$
 $31,9 \overline{) 447,9}$ $3,2 \overline{) 448,1}$ $31,9 \overline{) 449,2}$

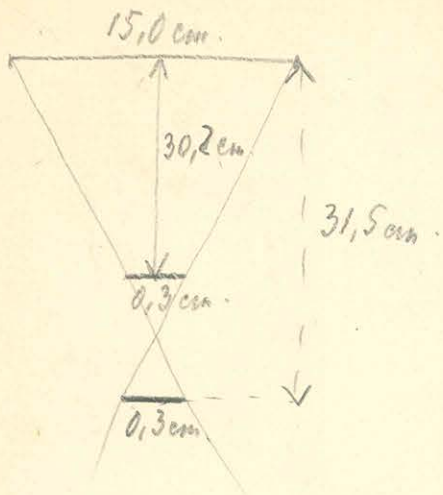
$x = 448,2$

Ranghastus

$30,6 \overline{) 225,8}$ $2,6 \overline{) 220,2}$ $42,7 \overline{) 222,7^*}$
 $44,8 \overline{) 222,7}$ $22,8$ $20,0$

$2,0 \overline{) 919,4}$ $24,8 \overline{) 922,0}$ $2,5 \overline{) 919,4}$ $24,1 \overline{) 920,7}$
 $21,4 \overline{) 919,3}$ $2,8 \overline{) 919,3}$ $21,9 \overline{) 919,8}$ $24,3 \overline{) 920,5}$
 $2,6 \overline{) 919,3}$ $23,1 \overline{) 919,3}$ $39,9 \overline{) 919,8}$ $3,8 \overline{) 920,5}$

$R = 919,8$

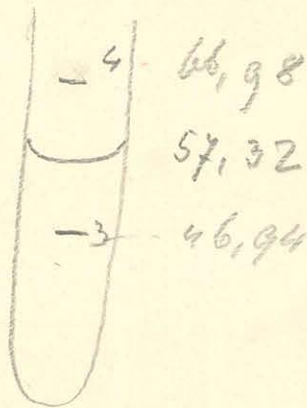
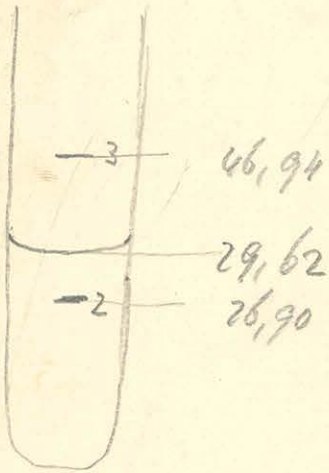


$$2R = 17,8 \text{ m.m.}$$

$$\lg U = \frac{7,35}{30,2}$$

↑ maghatalom a

+ 5 cm³ víz



$$r^2 \pi \times 2,770 = 5$$

$$r^2 = \frac{5}{2,770 \times \pi}$$

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8,2

0,5

Vite ~~Wing~~ löis muutaja

1893. jänin 22.

	41,7	133,5
viini	28,2	174,7
viini	33,5	172,1
viini	41,4	135,5
viini	25,9	<u>615,8</u>

viini	27,3	135,8
viini	43,1	172,9
viini	36,0	175,0
viini	31,0	134,8
viini	45,8	<u>618,5</u>

viini	46,8	135,0
viini	31,8	174,0
viini	37,8	173,8
viini	44,0	135,4
viini	28,6	<u>618,2</u>

viini	28,5	135,4
viini	43,9	173,1
viini	37,0	174,8
viini	31,8	134,7
viini	47,1	<u>618,0</u>

viini	44,3	135,6
viini	28,7	174,5
viini	34,2	174,3
viini	39,9	136,1
viini	23,8	<u>620,5</u>

viini	24,9	} <u>622,1</u>
viini	41,1	
viini	31,2	
viini	47,0	

viini	26,3	} <u>620,9</u>
viini	47,2	

X muutajain

viini	48,0	26,8	viini	48,1	} <u>620,6</u>
viini	27,0	47,6	viini	27,5	

viini	27,2	} <u>620,7</u>
viini	47,9	

viini	48,8	27,0	viini	48,6	} <u>620,9</u>
viini	27,8	47,9	viini	27,7	

viini	27,3	} <u>621,2</u>
viini	48,5	

viini	48,4	27,9	viini	48,8	} <u>620,9</u>
viini	27,6	48,8			

- 21,0
- 20,8
- 20,6
- 20,7
- 21,0
- 20,9
- 20,9
- 21,2
- 20,8
- 20,9
- 8,8

$x = 620,9$

$lg d = \frac{299,1}{502,5 \cdot 2} = \frac{299,1}{1005}$



Ringkasan

~~12,0~~ / don 4,3) 1132,3 ring 43,9 / don 50,0) 1133,9 11,2 / don 4,2) 1133,0

ring 44,6 / don 51,0) 1133,6 don 49,8 / don 42,0) 1132,2 43,6 / don 50,0) 1133,6

10,5 / don 4,8) 1134,3 ring 44,2 / don 46,0) 1132,2 don 12,0 / don 5,0) 1133,0

ring 45,0 / don 52,0) 1133,0 don 10,6 / don 4,1) 1133,5 R = 1133,2

2,3
3,9
3,0
3,6
2,2
3,6
4,3
3,0
3,0
3,5
32,4

15 mm. hasil an. untuk an. kromatogram.

43,8 / don 35,2) 951,4 ring 35,2 / don 43,8) 951,4 43,7 / don 34,8) 951,1

ring 35,2 / don 43,9) 951,3 don 43,8 / don 34,9) 951,1 ring 35,2 / don 43,7) 951,5 don 43,8 / don 34,9) 951,1

ring 35,0 / don 43,8) 951,2

15 mm = 951,3

1,4
1,4
1,1
1,3
1,1
1,5
1,1
1,2
2,1
1,3

Uveg. Toris. mutabaja

X ringkasan

44,3 / don 0,2) 344,1 don 0,5 / don 44,1) 343,6 ring 44,8 / don 0,6) 344,2 don 0,4 / don 44,2) 343,8

44,7 / don 0,5) 344,2 0,2 / don 44,1) 343,9 44,6 / don 0,3) 344,3 0,2 / don 44,0) 343,8

44,5 / don 0,7) 343,8 0,0 / don 44,0) 344,0 x = 344,0

4,1
3,6
4,2
3,8
4,2
3,9
4,3
3,8
3,8
4,0
3,97

R ringkasan

41,0 / don 40,5) 899,5 ring 40,8 / don 40,0) 900,8 don 0,8 / don 0,2) 899,4 ring 40,5 / don 40,4) 900,1

1,2 / don 0,8) 899,6 40,0 / don 40,0) 900,0 don 0,8 / don 0,3) 899,5 ring 39,8 / don 39,9) 899,9

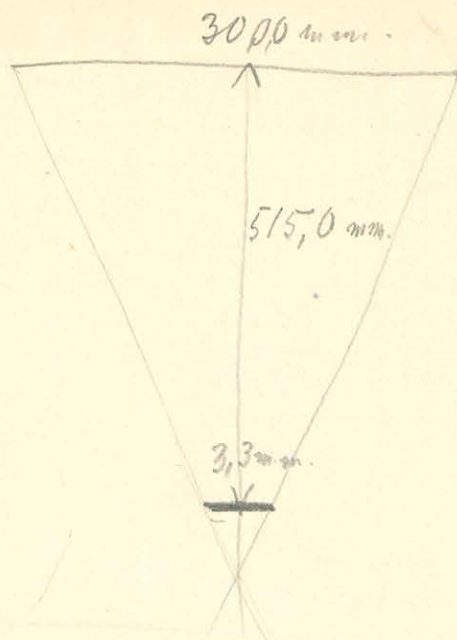
1,0 / don 0,5) 899,5 ring 40,5 / don 40,4) 900,1

R = 899,8

R_{GA}
9,5
10,8
9,4
10,1
10,6
10,0
9,5
9,9
9,5
10,1
98,4
9,84

2,3
3,9
3,0
3,6
2,2
3,6
4,3
3,0
3,0
3,5
2,4

$$\lg J = \frac{296,7}{2.515,0} = \frac{296,7}{1030}$$



A alkotól sűrűsége 0,841

A tömeg cső/súfa tömege = 54,344 gr

Tarival

4,3 5,6
4,3 5,6
4,3

4,3 5,6

Egyenlet = $\frac{89}{2} = 4,45$

Súfát

Mérték 54,340 gr.

6,3
4,6 6,3
4,6 6,2

4,60 6,27

Egyenlet = $\frac{10,87}{2} = 5,44$

Súfát = 1,31 ofintérim

1 ofintérim = 3,8 mg

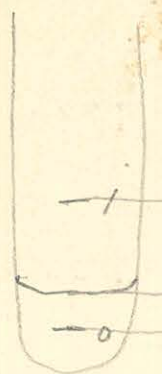
Mérték 54,345 gr.

4,5
3,7 4,5
3,8 4,5

3,75 4,5

Egyenlet = $\frac{8,25}{2} = 4,13$

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45,70 45,70
~~28,06~~ 28,06
 17,64 17,66
 9,86
 27,52

17,65
 9,85
 27,50

+ 5 cm³ alkohol



55,14 54,82
 45,30 44,96
 9,84 9,86

Weg von Alkohol supra = 58,371 gr.

Tarival

4,5 7,4
 4,5 7,4
 4,5
 4,5 7,4

Ergeniss = $\frac{11,9}{2} = 5,95$

Luffel

Merkegen 58,370 gr.

Merkegen 58,375 gr.

7,7
 4,7 7,7
 4,7 7,7
 4,8 7,6

6,1
 3,7 6,0
 3,8 6,0
 3,8 6,0
 3,77 6,08

4,77 7,68

↓ = 6,3

Ergeniss = $\frac{9,85}{2} = 4,93$

Ergeniss = $\frac{12,45}{2} = 6,23$

$\pi r^2 h = \frac{m}{0,812}$

5mg = 1,30 outijren

1 outijren = 3,8 mg.

812/403 = 811 = 4969

812/4030 / 4963
 2248
 7820
 2308
 5120
 4927

3244
 7860
 7299
 5610
 4866
 7246

Szell üveg kőrsmutatója

$x = 344,0$ $\frac{x}{R} = 0,38231$
 $R = 899,8$
 $\delta = 22,497^\circ$ $S = 22,557^\circ$
 $\delta = 16,040^\circ$
 $n = 1,533$ $\lambda n = 0,18548$

a Kátepi sugaras nem pädösös
 volt'nak kinnilla iklével

~~11298~~ $n = 1,528$

Víz kőrsmutatója.

$x = 620,9$
 $R = 1133,2$

$R = 8,937 \text{ m.m.}$
 $r = 7,577 \text{ m.m.}$

$\frac{x}{R} = 0,54791$

$\frac{R}{r} = 1,1795$

$S = 33,371$

$\delta = 16,543$

$B - \gamma = 4,002$

$S = 33,224^\circ$

~~33,224~~

$B - \gamma = 3,993^\circ$

$\lambda n = 1,329$

$n = 1,329$

$n = 1,329$

Telkiviz

$$\begin{aligned} \{x &= 2,53656 \\ \{R &= 2,95415 \\ \{ \frac{x}{R} &= 0,58241-1 = \{ \sin D \\ D &= 22.477^\circ \\ \frac{D}{2} &= \frac{8.034}{14.443} \\ \{ \frac{D}{2} &= 14.443^\circ \\ \{ \sin 14.443 &= 0,39693-1 \\ \{ \frac{x}{R} &= 2,53656 \\ \{ \frac{x}{R} &= 0,58241-1 \\ \{ n &= 0,18548 \quad n = 1.533 \end{aligned}$$

$$\begin{aligned} \{ 296.7 &= 2,47232 \\ \{ 1030 &= 3,01284 \\ \{ 49 D &= 0,45948-1 \\ D &= 16.069 \end{aligned}$$

$$\begin{aligned} 58,371 \\ 54,344 \\ \hline 4,027 \\ \pi r^2 \cdot 27.50 &= \frac{4.027}{0.812} \\ r^2 &= \frac{4.027}{0.812 \cdot 27.50 \cdot \pi} \end{aligned}$$

$$\begin{aligned} 2R &= \frac{1133,2}{951} \times 15 & 1133,2 &= 3,05431 \\ & & 951 &= 1,17609 \\ 2R &= 17,874 & & 4,23040 \\ R &= 8,937 & & 9951 = 2,97818 \\ & & & \hline & & & 1,25222 \end{aligned}$$

$$\begin{aligned} \{ 0,812 &= 0,90956-1 \\ \{ 2.750 &= 0,43933 \\ \{ \pi &= 0,49715 \\ & \hline 0,84604 \\ \{ 4,027 &= \frac{0,60498}{0,75894-1} \\ 2r &= 0,87947-1 \quad r = 0,7577 \end{aligned}$$

$$\begin{aligned} \{ x &= 2,79302 \\ \{ R &= 3,05431 \\ \{ \frac{x}{R} &= 0,73871-1 = \{ \sin D \\ 299 & \\ \{ 299,1 &= 2,47582 \\ \{ 1005 &= 3,00217 \\ & \hline 0,47365-1 \\ D &= 16.574 \end{aligned}$$

$$\begin{aligned} \{ R &= 0,95119 \\ \{ r &= 0,87950 \\ & \hline 0,07169 \end{aligned}$$

$$\begin{aligned} D &= 33.224 \\ \frac{D}{2} &= \frac{8.287}{24.937} \\ & \hline 3.993 \\ \alpha &= \frac{28.930}{14} \\ & \hline 29,07 \end{aligned}$$

$$\begin{aligned} \{ \left(\frac{R}{r}\right)^2 &= 0,14338 \\ \{ \sin^2 D &= 0,47742-1 \\ & \hline 0,62080-1 \\ \{ n^2 &= \frac{0,37096}{0,24984-1} \\ & \hline 0,17776 \quad \{ 0,82224 = 0,91500-1 \\ \frac{R^2}{r^2} &= \frac{1,39117}{1,21341} \quad \{ \sqrt{\quad} = 0,95750-1 \end{aligned}$$

$$\begin{aligned} \{ 1,21341 &= 0,08401 \\ \{ \sqrt{\quad} &= 0,04201 \\ N &= 1,10156 \\ N &= \frac{0,90678}{0,19478} \\ \{ 0,19 &= 0,28955-1 \\ \{ \sin D &= 0,73871-1 \\ & \hline 0,02826-1 \\ \{ n_{23} &= \frac{0,18548}{0,84278-2} \end{aligned}$$

$$\begin{aligned} \{ \frac{x}{R} &= 0,73871-1 \\ \{ \frac{R}{r} &= 0,07169 \\ & \hline 0,81040-1 \\ \{ \sin \alpha &= 0,68461 \\ & \hline 0,12579 \quad \underline{\underline{1,336}} \end{aligned}$$

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

$$\frac{620,9}{951,3} \times 15$$

$$\begin{aligned} B-g &= 3.993 \\ \{ 15 &= 1,17609 \\ \{ 620,9 &= 2,79302 \\ & \hline 3,96911 \\ \{ 951 &= 2,97818 \\ & \hline 0,99093 \\ X &= 1,917932 \\ & \hline 4,897 \end{aligned}$$

$$\begin{aligned} 0,87040-1 & \quad 28 \\ \hline 68653 & \quad 1,330 \\ 0,12387 & \quad \underline{\underline{1,330}} \end{aligned}$$

$$\begin{aligned} 0,99093 \\ \hline 30103 \\ \hline 0,68990 \\ \hline 2203,30743 \\ \hline 0,38887-3 \end{aligned}$$

0,14

lell irányos

$$x = 267,25$$

$$\frac{x}{R} = 0,3744$$

$$R = 714,5$$

$$\delta = 15^{\circ} 14'$$

$$\beta = 21^{\circ} 58'$$

$$n = 1,5092 \quad \text{magh} = 0,1787261$$

Vízzel lell irányos

$$R = 8,9$$

$$r = 7,580$$

$$\frac{R}{r} = 1,1741$$

$$x = 448,2$$

$$\frac{x}{R} = 0,4873$$

$$R = 919,8$$

$$\delta = 29^{\circ} 10'$$

450

$$\beta = 13^{\circ} 43'$$

$$\frac{\beta}{\delta} = 6^{\circ} 57,5'$$

927

$$\beta - \delta = 3^{\circ} 30'$$

$$n = 1,3145$$

CO₂ körmutatási adatainak változása
a hőmérséklettel

A vonalak közötti távolság

$$\begin{array}{r} 50,5 \\ 52,5 \end{array} \Bigg| 362,0 \quad \begin{array}{r} 53,1 \\ 51,2 \end{array} \Bigg| 361,9 \quad \text{Hőmérséklet } 18,2$$

$$\begin{array}{r} 50,8 \\ 53,2 \end{array} \Bigg| 362,4 \quad \begin{array}{r} 53,0 \\ 51,0 \end{array} \Bigg| 362,0$$

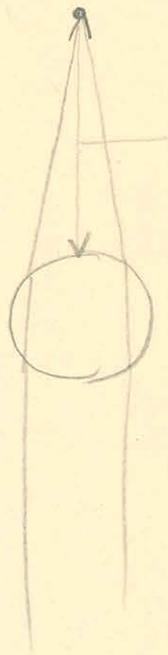
$$\begin{array}{r} 50,6 \\ 52,9 \end{array} \Bigg| 362,3 \quad \begin{array}{r} 52,5 \\ 50,5 \end{array} \Bigg| 362,0$$

Edwards 609,3

Netto

Görben

dm	54,0	534,8	dm	50,1	537,1
	48,8		dm	53,0	
dm	52,0	535,0	dm	48,0	537,0
	47,0		dm	51,0	
dm	51,5	534,5		45,0	533,9
	47,0			51,1	



Fopartsban

dm	31,8	708,2	dm	20,2	708,2
	20,0			31,9	
dm	32,0	709,0	dm	21,0	708,5
	21,0			32,5	

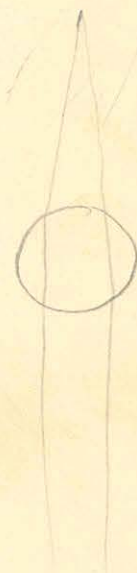
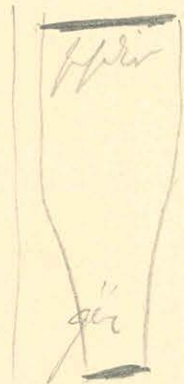
Edwards 609,3

Edwards 611,0

Görben

dm	52,6	584,8	dm	7,5	584,3
	7,8		dm	51,8	
dm	51,0	584,0	dm	7,1	584,5
	7,0		dm	51,6	

$x = 584,4$



Fopartsban

dm	3,8	686,2	dm	37,2	686,7
	37,1		dm	3,9	
dm	3,5	686,4	dm	37,3	686,5
	37,1		dm	3,8	

$x = 686,5$

Edwards = 611,0

Gyűjteményi Értékelés 611.0

$$\begin{aligned} \sum x &= 2.76671 \\ \sum R &= 2.96327 \\ \sum \sin \delta &= 0.80344-1 \\ & \quad 3.57978 \\ & \quad 0.22366-4 \\ & \quad 1.18384 \\ & \quad 0.40750-3 \end{aligned}$$

$$\begin{aligned} \delta &= 39.492 \\ \varepsilon - \delta &= 0.147 \\ \varepsilon &= 39.639 \\ \rho - \gamma &= 8.640 \\ & \quad 48.279 \\ & \quad 343 \\ & \quad 47.936 \end{aligned}$$

$$\begin{aligned} \sum R(\cos R) &= \sum R = 0.88252 \\ \sum (\cos R) &= 2.71475 \\ & \quad 0.16777-2 \\ \sum \sin \varepsilon &= 0.80479-1 \\ & \quad 0.97255-3 \\ \alpha &= 0.538 \\ \varepsilon - \delta &= 147 \\ \delta &= 0.685 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{R} &= 0.80344-1 \\ \sum \frac{R}{T} &= 0.12437 \\ & \quad 0.92787-1 \\ & \quad 87064 \\ & \quad 0.05717 \end{aligned} \quad n = 1.142$$

$$\begin{aligned} \left(\sum \frac{R}{T}\right)^2 &= 0.84594-1 \\ \sum \sin^2 \varepsilon &= 0.60950-1 \\ & \quad 0.45550-1 \\ 0.28543 \quad \sum 0.71457 &= 0.85904-1 \\ 1.77312 \quad \sum V &= 0.92702 \\ \sum 1.48769 &= 0.17251 \\ \sum V &= 0.08626 \\ V &= 1.21972 \\ & \quad 84532 \\ \sum 0.37940 &= 0.57334-1 \\ \sum \sin \varepsilon &= 0.80478-1 \\ & \quad 0.37812-1 \\ & \quad 20140 \\ & \quad 0.17672-1 \end{aligned}$$

Rekapituláció

$$\begin{aligned} \sum x &= 2.83064 \\ \sum R &= 2.96327 \\ & \quad 0.87337-1 \\ & \quad 3.57978 \\ & \quad 0.29359-4 \\ & \quad 1.18384 \\ & \quad 0.47743-3 \\ \varepsilon - \delta &= 0.172 \\ \delta &= 48.339 \\ \varepsilon &= 48.511 \\ \rho - \gamma &= 10.748 \\ & \quad 59.259 \\ & \quad 402 \\ & \quad 58.857 \end{aligned}$$

$$\begin{aligned} & \quad 0.16777-2 \\ \sum \sin \varepsilon &= 0.87453-1 \\ & \quad 0.04230-2 \\ \alpha &= 0.632 \\ & \quad 172 \\ & \quad 0.460 \\ \delta &= 0.804 \\ \sum \frac{x}{R} &= 0.87337-1 \\ & \quad 12437 \\ & \quad 0.99774-1 \\ \sum \sin \alpha &= 0.93242 \\ & \quad 0.06532 \end{aligned}$$

$$n = 1.162$$

$$\begin{aligned} \left(\sum \frac{R}{T}\right)^2 &= 0.84594-1 \\ \sum \sin^2 \varepsilon &= 0.74906-1 \\ & \quad 0.59500-1 \\ 0.39355 \quad \sum 0.60645 &= 0.78280 \\ 1.77321 \quad \sum V &= 0.89140 \\ \sum 1.32966 &= 0.13977 \\ \sum V &= 0.06989 \\ V &= 1.17459 \\ V &= 0.77875 \\ \sum 0.39584 &= 0.59752-1 \\ \sum \sin \varepsilon &= 0.87453-1 \\ & \quad 0.47205-1 \\ & \quad 0.20140 \\ & \quad 0.27065 \end{aligned}$$

Görümler = (604,9)

$$\begin{aligned} x &= 2.06997 \\ R &= 2.96327 \\ \frac{0.70670-1}{357978} \\ \frac{0.12692-4}{1.18384} \\ \frac{0.32076-3}{0.32076-3} \end{aligned}$$

$$\begin{aligned} 3.55221 \\ \frac{0.70824-1}{3.26045} \\ \frac{17584}{1822} \\ 15762 = 4.19761 \\ \frac{5.34217}{0.85544-2} \end{aligned}$$

$$\begin{aligned} 0.84594-1 \\ \frac{0.40648-1}{0.26242-1} \end{aligned}$$

$$\begin{aligned} 0.18299 \quad \& \quad 0.81701 = 0.91223-1. \\ \frac{1.77312}{1.59013} = 0.20144 \end{aligned}$$

$$\varepsilon - \delta = 0.120$$

$$\begin{aligned} -4.111 \\ \frac{0}{-3.991} \end{aligned}$$

$$\begin{aligned} p-y &= 6.588 \\ z &= 30.716 \\ -\frac{z}{2} &= 1.996 \\ 39.300 \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= \frac{0.70670-1}{12437} \\ &= \frac{0.83107-1}{0.85544-2} \\ \frac{0.85544-2}{0.02941} \end{aligned}$$

$$\begin{aligned} v &= 1.26100 \\ v &= 0.90389 \\ \frac{0.35711}{0.70824-1} &= 0.55280 \\ \frac{0.26104-1}{20140} &= 0.05964-1 \end{aligned}$$

Topadok My ömsöndur

$$\begin{aligned} \frac{R}{R_2} &= 0.84594-1 \\ \frac{0.80974-1}{0.65568-1} \end{aligned}$$

$$\begin{aligned} 29.9 \\ 31.5 \\ 31.5 \\ 32.3 \\ \frac{125.2}{31.3} \end{aligned}$$

$$\begin{aligned} 7.625 \\ \frac{518.5}{526.14} = 1+R \\ R = 7.64 \\ \frac{53.260}{2.5} = 0.185 \\ 2 = 53.445 \end{aligned}$$

$$\begin{aligned} x &= 2.86710 \\ R &= 2.96327 \\ \frac{0.90383-1}{3.57978} \\ \frac{0.32405-4}{1.18384} \\ \frac{0.50789-3}{0.50789-3} \end{aligned}$$

$$\begin{aligned} R &= 0.88252 \\ \frac{0.90487-1}{0.78739} \\ \frac{2.71475}{0.07264-2} \\ \frac{0.677}{185} \\ \frac{0.862}{0.862} \end{aligned}$$

$$\begin{aligned} 0.45257 \quad \& \quad 0.54743 = 0.73832-1. \\ \frac{1.77312}{1.32055} = 0.12075 \\ \frac{0.06038}{1.14916} \\ \frac{0.73988}{0.40928} = 0.61202-1 \end{aligned}$$

$$\begin{aligned} \beta - \gamma &= 11.933 \\ \varepsilon &= 53.445 \\ \frac{65.378}{0.431} \\ \frac{64.947}{64.947} \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= 0.90383-1 \\ \frac{0.12437}{0.02820} \\ \frac{95709}{0.67111} \end{aligned}$$

n = 1.178 (606,3)

$$\begin{aligned} \frac{0.90487-1}{0.51689-1} \\ \frac{20140}{0.31549-1} \end{aligned}$$

$$\begin{aligned} \frac{515.5}{7.64} \quad \& \quad \frac{0.78739}{0.06877-2} \\ \frac{523.14}{523.14} \end{aligned}$$

Wen illi (606,1)

$$x = 730.1$$

$$\begin{aligned} x &= 2.86338 \\ R &= 2.96327 \\ \frac{0.90011-1}{52.610} \\ \frac{183}{52.793} \\ \beta - \gamma &= 11.774 \\ \frac{64.567}{425} \\ \frac{64.142}{64.142} \end{aligned}$$

$$\begin{aligned} R &= 0.88252 \\ \frac{0.90117-1}{0.78369} \\ \frac{2.71862}{0.06507-2} \\ \alpha &= 0.666 \\ \frac{183}{0.849} \end{aligned}$$

$$\begin{aligned} 0.84594-1 \\ \frac{0.80234-1}{0.64828-1} \end{aligned}$$

$$\begin{aligned} 0.44492 \quad \& \quad 0.55508 = 0.74435-1. \\ \frac{1.77312}{1.32820} = 0.12320 \\ \frac{0.06160}{1.15240} \\ \frac{0.74504}{0.40736} = 0.60998-1 \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= 0.90011-1 \\ \frac{0.12437}{0.02448} \\ \frac{95419}{0.7029} \end{aligned}$$

n = 1.176

$$\begin{aligned} \frac{0.90117-1}{0.51115-1} \\ \frac{20140}{0.30975-1} \end{aligned}$$

Delter Formulatója (fogalmai) Temp = 170.9

$$\begin{aligned} \sum R &= 0.88252 \\ \sum sm \varepsilon &= 0.63505-1 \\ \sum (R+R) &= 2.66969 \\ \hline & 3.18726 \end{aligned}$$

$$\begin{aligned} p-y &= 19.927 \\ \hline \frac{y}{2} &= 2.5 \end{aligned}$$

$$\begin{aligned} p-y+\varepsilon &= 31.005 \\ \hline \frac{y}{2} &= 2.545 \\ \hline & 28.460 \end{aligned}$$

$$\begin{aligned} aV &= 17584 \\ \hline & 1539 \\ \hline \frac{17584}{1539} &= 4.28156 \\ \hline & 5.34217 \\ \hline \varepsilon-D &= 0.099 \\ \hline & 4.990 \\ \hline & 5.089 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{2} &= 0.75784-1 \\ \sum sm \varepsilon &= 0.67810-1 \\ \hline & 0.07974 \end{aligned} \quad n=1.202$$

$$\begin{aligned} & 457.5 \\ & \hline & 7.63 \\ & \hline & 465.13 \end{aligned}$$

Temp = 183.5

$$\begin{aligned} \sum x &= 2.85132 \\ \sum R &= 2.97253 \\ \sum sm D &= 0.87879-1 \\ \sum 3800 &= 3.57978 \\ \hline & 0.29901-4 \\ \hline & 1.18384 \\ \hline & 0.48285-3 \end{aligned}$$

$$\begin{aligned} \varepsilon-D &= 0.171 \\ \hline D &= 49.153 \end{aligned}$$

$$\begin{aligned} \sum R &= 0.88252 \\ \sum sm \varepsilon &= 0.87990-1 \\ \hline & 0.76242 \\ \sum (R+R) &= 2.06758 \\ \hline & 0.09484-2 \end{aligned}$$

$$\begin{aligned} \alpha &= 0.713 \\ \hline & 171 \\ \hline D &= 0.884 \end{aligned}$$

$$\begin{aligned} p-y &= 10.942 \\ \hline & 49.324 \\ \hline & 60.266 \\ \hline \frac{y}{2} &= 0.442 \\ \hline & 59.824 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{2} &= 0.87879-1 \\ \sum R &= 0.12437 \\ \hline & 0.00316 \\ \sum sm \varepsilon &= 0.93676 \\ \hline & 0.06640 \end{aligned}$$

$$\begin{aligned} \sum \left(\frac{R}{T} N_{15}\right) &= 0.84594-1 \\ \sum sm \varepsilon &= 0.75980-1 \\ \hline & 0.60574-1 \end{aligned}$$

$$\begin{aligned} 0.40340 \quad \sum 0.59660 &= 0.77568-1 \\ \hline & 1.77312 \\ \hline \sum 1.36972 &= 0.13663 \\ \hline \sum V &= 0.06832 \end{aligned}$$

$$\begin{aligned} V &= 1.17035 \\ \hline V &= 0.77240 \end{aligned}$$

$$\sum 0.39795 = 0.59982-1$$

$$\begin{aligned} \sum sm \varepsilon &= 0.87990-1 \\ \hline & 0.47972-1 \\ \sum N_{15} &= 0.20140 \\ \hline & 0.27832-1 \end{aligned}$$

$$\begin{aligned} p-y &= 9.478 \\ \hline & 43.197 \\ \hline & 52.675 \\ \hline \frac{y}{2} &= 0.402 \\ \hline & 52.273 \end{aligned}$$

Temp =

(604.9)

$$\begin{aligned} \sum x &= 2.80665 \\ \sum R &= 2.97253 \\ \sum sm D &= 0.83412-1 \\ \sum 3800 &= 3.57978 \\ \hline & 0.25434-4 \\ \hline & 1.18384 \\ \hline & 0.43818-3 \end{aligned}$$

$$\begin{aligned} \varepsilon-D &= 0.156 \\ \hline D &= 43.041 \\ \hline & 43.197 \end{aligned}$$

$$\begin{aligned} \sum R &= 0.88252 \\ \sum sm \varepsilon &= 0.83538-1 \\ \hline & 0.71790 \\ \sum (R+R) &= 2.66758 \\ \hline & 0.05032-2 \end{aligned}$$

$$\begin{aligned} \alpha &= 0.645 \\ \hline & 156 \\ \hline D &= 0.801 \end{aligned}$$

$$\begin{aligned} p-y &= 9.478 \\ \hline & 49.324 \\ \hline & 58.802 \\ \hline \frac{y}{2} &= 0.402 \\ \hline & 58.400 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{2} &= 0.83412 \\ \sum R &= 0.12437 \\ \hline & 0.95849-1 \\ \sum sm \varepsilon &= 0.93030-1 \\ \hline & 0.02819 \end{aligned}$$

$$\begin{aligned} \sum \left(\frac{R}{T} N_{15}\right) &= 0.84594-1 \\ \sum sm \varepsilon &= 0.67076-1 \\ \hline & 0.51670-1 \\ 0.32862 \quad \sum 0.67138 &= 0.82697-1 \\ \hline & 1.77312 \\ \hline \sum 1.44450 &= 0.15972 \\ \hline \sum V &= 0.07986 \\ \hline V &= 1.20189 \\ \hline V &= 0.81938 \end{aligned}$$

$$\begin{aligned} \sum 0.38251 &= 0.58264-1 \\ \sum sm \varepsilon &= 0.83538-1 \\ \hline & 0.41802-1 \\ \sum N_{15} &= 0.20140 \\ \hline & 0.21662-1 \end{aligned}$$

$$\begin{aligned} \sum sm \varepsilon &= 0.89814 \\ \hline & 06035 \\ \hline n &= 1.149 \end{aligned}$$

Göz

$$\begin{aligned} \sum x &= 2.31197 \\ \sum R &= 2.96265 \\ \sum sm D &= 0.34932-1 \\ \sum 3800 &= 3.57978 \\ \hline & 0.76954-5 \\ \hline & 1.18327 \\ \hline & 0.95281-4 \\ \varepsilon-D &= 0.052 \\ \hline \alpha &= -4.378 \\ \hline & -4.326 \end{aligned}$$

$$\begin{aligned} p-y &= 2.719 \\ \hline & 12.968 \\ \hline & 15.687 \\ \hline \frac{y}{2} &= 2.163 \\ \hline & 17.850 \end{aligned}$$

$$\begin{aligned} \sum R &= 0.88252 \\ \sum sm \varepsilon &= 0.35103-1 \\ \sum (R+R) &= 2.66969 \\ \hline & 2.90324 \\ aV &= 17584 \\ \hline & 800 \\ \hline & 216784 = 4.22489 \\ \hline \sum V &= 5.34217 \\ \sum sm \varepsilon &= 0.88272-2 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{2} &= 0.34932-1 \\ \sum R &= 0.12437 \\ \hline & 0.47369-1 \\ \sum sm \varepsilon &= 0.48847 \\ \hline & 0.98722-1 \end{aligned}$$

$$\begin{aligned} \sum \left(\frac{R}{T} N_{15}\right) &= 0.84594-1 \\ \sum sm \varepsilon &= 0.70206-1 \\ \hline & 0.54800-2 \\ 0.03532 \quad \sum 0.96468 &= 0.98438-1 \\ \hline & 1.77312 \\ \hline \sum 1.73780 &= 0.24000 \\ \hline \sum V &= 0.12000 \\ \hline V &= 1.31825 \\ \hline \sum V &= 0.98219 \\ \hline \sum 0.33606 &= 0.52642-1 \\ \sum sm \varepsilon &= 0.35103-1 \\ \hline & 0.87745-2 \\ \sum N_{15} &= 0.20140 \\ \hline & 0.67605-2 \end{aligned}$$

Temp. 18,2

lump 108,6

$$\begin{aligned} \sum x &= 2.35832 \\ \sum R &= 2.96265 \\ \sum \ln v &= 0.39567-1 \\ & \quad 3.57978 \\ & \quad 0.81589-5 \\ & \quad 1.18327 \\ & \quad 0.99916-4 \\ \sum -d &= 0.000 \\ a &= -4.354 \\ & \quad -4.294 \\ \beta - \gamma &= 3.035 \\ \frac{v}{z} &= 2.147 \\ z &= 14.460 \\ & \quad 19.642 \end{aligned}$$

$$\begin{aligned} \sum R &= 2.96265 \\ & \quad 0.88252 \\ \sum R &= 2.06969 \\ & \quad 3.55221 \\ \sum \ln v &= 0.39743-1 \\ & \quad 2.94964 \\ aV &= 17584 \\ & \quad 891 \\ -\sum 16093 &= 4.22254 \\ & \quad 5.34217 \\ \frac{\sum x}{R} &= 0.39567-1 \\ \frac{\sum R}{7} &= 0.12437 \\ & \quad 0.52004-1 \\ \sum \ln a &= 0.52652-1 \\ & \quad 0.99352-1 \end{aligned}$$

$$\begin{aligned} \frac{\sum R}{7} &= 0.84594-1 \\ \sum \ln v &= 0.79486-2 \\ & \quad 0.64080-2 \\ 0.04373 & \quad 10.95627=0.98058-1 \\ 1.77312 & \quad n=0.99029 \\ \sum 1.72939 &= 0.23789 \\ \sum V &= 0.11895 \\ V &= 1.31506 \\ v &= 0.97790 \\ \sum 0.33216 &= 0.52784-1 \\ \sum \sum \ln v &= 0.39743-1 \\ & \quad 0.92527-2 \\ & \quad 20140 \\ & \quad 0.72387-2 \end{aligned}$$

902

lump 134.7

$$\begin{aligned} \sum x &= 2.39199 \\ \sum R &= 2.96308 \\ \sum \ln v &= 0.42891-1 \\ & \quad 3.57978 \\ & \quad 0.84913-5 \\ & \quad 1.18327 \\ & \quad 0.03240-3 \\ \sum -d &= 0.062 \\ \sum &= 15.574 \\ & \quad -4.336 \\ \sum &= -4.274 \\ \beta - \gamma &= 3.286 \\ z &= 15.636 \\ & \quad 2.137 \\ & \quad 21.059 \end{aligned}$$

$$\begin{aligned} \sum \ln v &= 0.43060-1 \\ & \quad 3.55221 \\ & \quad 0.98281 \\ & \quad 17584 \\ & \quad 961 \\ \sum 16623 &= 4.22071 \\ & \quad 5.34217 \\ & \quad 0.87854-2 \\ \frac{\sum x}{R} &= 0.42891-1 \\ & \quad 0.12437 \\ & \quad 0.55328 \\ \sum \ln a &= 0.55549 \\ & \quad 0.99779 \end{aligned}$$

$$\begin{aligned} \sum \ln v &= 0.84594-1 \\ \sum \ln v &= 0.86120-2 \\ & \quad 0.70714-2 \\ 0.05095 & \quad 10.94905=0.97729 \\ 1.77312 & \quad n=0.98865 \\ \sum 1.72217 &= 0.23607 \\ \sum V &= 0.11804 \\ V &= 1.31233 \\ v &= 0.97420 \\ \sum 0.33813 &= 0.52909-1 \\ \sum \sum \ln v &= 0.43060-1 \\ & \quad 0.95969-2 \\ & \quad 20140 \\ & \quad 0.75829-2 \end{aligned}$$

lump = 170.9

$$\begin{aligned} \sum x &= 2.48940 \\ \sum R &= 2.96322 \\ \sum \ln v &= 0.52618-1 \\ & \quad 3.57978 \\ & \quad 0.94640-5 \\ & \quad 1.18384 \\ & \quad 0.13024-3 \\ \sum -d &= 0.078 \\ \sum &= 19.626 \\ & \quad -4.273 \\ & \quad -4.195 \\ \beta - \gamma &= 4.158 \\ z &= 19.704 \\ \frac{v}{z} &= 2.098 \\ & \quad 25.960 \end{aligned}$$

$$\begin{aligned} \sum R &= 3.55221 \\ \sum \ln v &= 0.52783-1 \\ & \quad 3.08004 \\ & \quad 17584 \\ & \quad 1202 \\ \sum 16382 &= 4.21436 \\ & \quad 5.34217 \\ & \quad 0.87219-2 \\ \frac{\sum x}{R} &= 0.52618-1 \\ & \quad 0.12437 \\ & \quad 0.65055-1 \\ & \quad 0.4122 \\ & \quad 0.00933 \end{aligned}$$

$$\begin{aligned} \sum \ln v &= 0.84594-1 \\ \sum \ln v &= 0.05566-1 \\ & \quad 0.90160-2 \\ 0.07973 & \quad 10.92027=0.96392 \\ 1.77312 & \quad n=0.98196 \\ \sum 1.69339 &= 0.22876 \\ \sum V &= 0.11438 \\ V &= 1.30130 \\ v &= 0.95932 \\ \sum 0.34198 &= 0.53400-1 \\ \sum \sum \ln v &= 0.52783-1 \\ & \quad 0.06183-1 \\ & \quad 20140 \\ & \quad 0.86043-2 \end{aligned}$$

lump. 183,5

$$\begin{aligned} \sum x &= 2.59660 \\ \sum R &= 2.96327 \\ \sum \ln v &= 0.63333-1 \\ & \quad 3.57978 \\ & \quad 0.05355-4 \\ & \quad 1.18384 \\ & \quad 0.23739-3 \\ \sum -d &= 0.099 \\ & \quad -4.185 \\ & \quad -4.086 \\ \beta - \gamma &= 5.437 \\ z &= 25.558 \\ \frac{v}{z} &= 2.043 \\ & \quad 33.038 \end{aligned}$$

$$\begin{aligned} \sum R &= 3.55221 \\ \sum \ln v &= 0.63491-1 \\ & \quad 3.18712 \\ & \quad 17584 \\ & \quad 1539 \\ \sum 16045 &= 4.20534 \\ & \quad 5.34217 \\ & \quad 0.86317-2 \\ \frac{\sum x}{R} &= 0.63333-1 \\ & \quad 0.12437 \\ & \quad 0.75770-1 \\ & \quad 0.70656 \\ & \quad 0.02114 \end{aligned}$$

$$\begin{aligned} \sum \ln v &= 0.84594-1 \\ \sum \ln v &= 0.26982-1 \\ & \quad 0.11576-1 \\ 0.13055 & \quad 10.86945=0.93925 \\ 1.77312 & \quad n=0.96962 \\ \sum 1.64257 &= 0.21552 \\ \sum V &= 0.10776 \\ V &= 1.28162 \\ v &= 0.93244 \\ \sum 0.34918 &= 0.54305-1 \\ \sum \sum \ln v &= 0.63491-1 \\ & \quad 0.17796-1 \\ & \quad 20140 \\ & \quad 97656-2 \end{aligned}$$

keresz = 18,2 ellenálló = 519,8 = 2 · 165 Ohm

X nyhatásos

Fülszék Gősbű

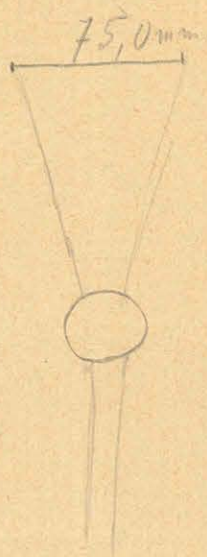
elő 6,5) 206,1 m 32,9 203,9
32,6

elő 9,5) 205,0 m 34,9 205,2
34,5

elő 9,0) 205,9 m 34,5 204,7
34,8

elő 10,0) 204,9 m 34,6 204,8
34,9

x = 205,1



Főszékben

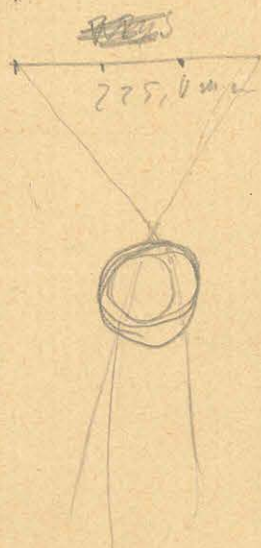
elő 56,5 464,4 m 40,6 469,0
40,9

elő 51,8 465,4 m 36,5 463,9
37,2

elő 53,0 463,6 m 36,6 465,1
36,6

elő 52,0 464,4 m 36,8 465,7
36,4

x = 464,7



temp: 17,7 Ellenátol = 521,4

1893. márc. 1

Gör

dm 76,0) 204,9 v 51,1) 203,9
50,9

dm 18,5) 203,3 v 51,0) 203,5
54,8

Fofadék

dm 21,5) 466,1 v 7,0) 465,5
7,6

dm 22,0) 465,0 v 7,5) 466,0
7,0

dm 21,5) 465,7 v 7,0) 465,5
7,2

Gör

dm 20,9) 205,1 v 45,9) 204,9
46,0

dm 20,8) 205,2 v 46,0) 205,0
46,0

Ellenátol 521,4

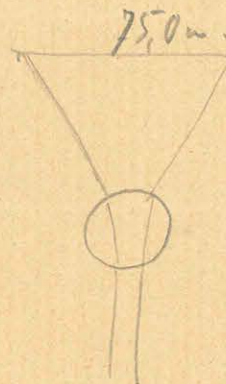
Ellenátol 587,3 = 2,777 dm.

Görben

dm 55,0) 246,5 v 1,5) 246,7
1,5

dm 54,5) 246,8 v 1,5) 246,5
1,3

x = 246,6



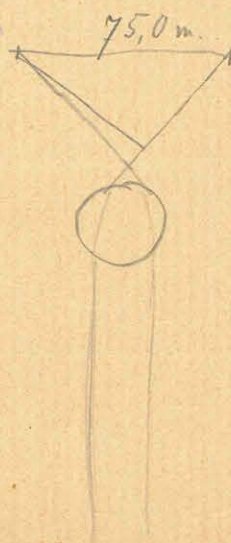
Fofadék

dm 49,8) 264,7 v 14,8) 265,3
14,5

dm 49,5) 264,5 v 15,2) 265,2
15,0

x = 264,9

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Ellenátol 587,3

t = 134,7

Acetylacether törési mutatója

Töfadék

$2R = 15,25$ $2r = 11,45$
 $R = 7,63$ $r = 5,73$

Gör

$2R = 917,3$

korrek

korrek 18.2°

$2R = 937,4$; $a = 225,0 : 2 = 112,5$
 $x = 464,7 = \cancel{937,4}$
 $\frac{x}{R} = 0,4957$
 $S = 29,718^\circ$
 $\varepsilon - S = 0,181$
 $\varepsilon = 29,899^\circ$
 $J = 14,158^\circ$
 $\alpha = 29,552^\circ$

$L = 459,8$
 $R = \frac{7,63}{467,4}$
 $\frac{R}{r} = 1,332$

$\beta - \gamma = 6,732$

$n = 1,338$

Az első a törési mutató helyesbe értéke 1,354, mivel $\frac{R}{r}$ első korrigált értéke:

$\frac{R}{r} = 1,347$

Az ezen értékkel számított $\beta - \gamma$:

$\beta - \gamma = 7,058^\circ$

Ezen $\beta - \gamma$ -val számított törési mutató:

$n = \cancel{1,338} \quad 1,341$

$\frac{R}{r} = 1,332$ $n = 1,338$
 $\frac{R}{r} = 1,347$ $n = 1,341$ } $n_{13} = 1,523$

$n_{13} = 1,523$	$n = 1,338$
$n_{13} = 1,540$	$n = 1,342$
$n_{13} = 1,590$	$n = 1,352$
$n_{13} = 1,600$	$n = 1,354$

korrek 108,6 Töfadék

7,0
6,5
6,8
7,0
27,3
6,8

$2R = 2,97192$
 $92942,6$
 $2,03583$
 $0,93717-1$
 $0,9$

$2R = 2,97225$
 $2x = 2,78305$
 $\sum \sin \alpha = 0,81080-1$
 $\sum \sin \alpha = 3,57978$
 $0,23102-4$
 $15,26 = 1,18355$
 $16(2-0) = 0,41457-3$
 $\varepsilon - S = 0,149$

$1R = \cancel{2} 0,88252$ 54084
 $\sum m \varepsilon = 0,81214-1$ 2314
 $\sum (1+R) = 2,66969$ $\sum 56398 = 4,75126$
 $3,36435$ $5,36384$
 $14,124$
 149
 $14,273$
 $0,387421$

$\left(\frac{R}{r} n_{13}\right)^2 = 0,84594-1$
 $\sum m^2 \varepsilon = 0,62428-1$
 $0,47022-1$

$\beta - \gamma = 8,831$
 $\varepsilon = 40,454$
 $9,49,285$
 $\bar{z} = \frac{7,137}{42,148}$

$\frac{x}{R} = 0,81080-1$
 $\frac{R}{r} = 0,12437$
 $0,93517-1$
 $\sum \sin \alpha = 0,82675$
 $0,10842$

$\frac{R}{r} = 1,77312$

$1,47785 = 0,16963$
 $\sum \sqrt{\quad} = 0,08482$
 $\sqrt{\quad} = 1,21569$
 $\sqrt{\quad} = 0,83948$

$0,29527$ $0,70473 = 0,84802-1$
 $\sqrt{\quad} = 0,92401-1$
 $0,37621 = 0,57543-1$
 $\sum \sin \varepsilon = 0,81214-1$
 $0,38757-1$
 $\sum n_{13} = 0,20140$
 $\sum \sin \beta - \gamma = 0,18617$

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$n = 1,284$

$n = 1$

$$n = \frac{R}{r} \cdot \frac{x}{R} \frac{1}{\sin \delta} \dots I) \quad \frac{R}{r} \text{ értéke } \frac{x}{R} \text{ értéke}$$

sin δ kiszámítására 5-től

$$\sin \delta = \sin \left[\delta - \frac{\delta}{2} + (\beta - \gamma) \right] \dots II)$$

itt $\sin \delta = \frac{x}{R}$ $\frac{x}{R}$ értéke. a)

δ értéke. b)

$$\sin(\beta - \gamma) = \sin \beta \cos \gamma - \cos \beta \sin \gamma$$

c) értéke

$$\sin \gamma = n_{23} \sin \delta$$

$$\sin \beta = n_{23} \frac{R}{r} \sin \delta$$

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$$\sin(\beta - \gamma) = n_{23} \frac{R}{r} \sin \delta \sqrt{1 - n_{23}^2 \sin^2 \delta} - n_{23} \sin \delta \sqrt{1 - n_{23}^2 \left(\frac{R}{r}\right)^2 \sin^2 \delta} \dots c)$$

~~szélesség~~ ~~szélesség~~ ~~(\beta - \gamma)~~

Minden esetben $\beta - \gamma$ mindig kevesebb a mint $\frac{R-r}{R}$ hányados
 és felvontságig ér, ezért kiszámítására mindig lehet a
 megelégedhetünk. ez pedig

$$\sin \beta - \gamma = \sin \beta - \gamma = n_{23} \frac{R}{r} \sin \delta \left(\sqrt{1 - n_{23}^2 \sin^2 \delta} - \sqrt{\frac{r^2}{R^2} - n_{23}^2 \sin^2 \delta} \right)$$

$$\text{Mivel } \left(\sqrt{1 - n_{23}^2 \sin^2 \delta} \right) - \sqrt{\frac{r^2}{R^2} - n_{23}^2 \sin^2 \delta}$$

~~szélesség~~ ~~(\beta - \gamma)~~

$$\text{Kiszámításra} - \sin(\beta - \gamma) = n_{23} \sin \delta \left(\sqrt{\frac{R^2}{r^2} - n_{23}^2 \frac{R^2}{r^2} \sin^2 \delta} - \sqrt{1 - n_{23}^2 \frac{R^2}{r^2} \sin^2 \delta} \right)$$

ismérvé kell azonban n_{23} erre lehetne egyszerűen
 javaslatokat készíteni a hat $n=1$ értéke, de az értékek
 nem elegendő, jobb lenne helyes irányított az irányított

$$a \cos(\varepsilon)$$

$$a \cos(\varepsilon + \gamma + \delta) + r \sin(\gamma + \delta) \cos(\varepsilon + \gamma + \delta) = l \sin(\varepsilon + \gamma + \delta) + r \sin(\varepsilon + \gamma + \delta) + r \cos(\gamma + \delta) \sin(\varepsilon + \gamma + \delta)$$

$$a \cos(\varepsilon + \gamma + \delta) - r \sin \varepsilon = (l + r) \sin(\varepsilon + \gamma + \delta)$$

$$\sin d = \frac{r(l+r) \sin \varepsilon \pm \sqrt{r^2(l+r)^2 \sin^2 \varepsilon - [a^2 + (l+r)^2](r^2 \sin^2 \varepsilon - a^2)}}{a^2 + (l+r)^2} = \frac{r(l+r) \sin \varepsilon}{a^2 + (l+r)^2} \pm \frac{a \sqrt{a^2 + (l+r)^2 - r^2 \sin^2 \varepsilon}}{a^2 + (l+r)^2}$$

$$\cancel{r^2(l+r)^2 \sin^2 \varepsilon} - a^2 \cancel{r^2 \sin^2 \varepsilon} + a^4 - \cancel{r^2(l+r)^2 \sin^2 \varepsilon} + a^2(l+r)^2$$

$$a^4 + a^2(l+r)^2 - a^2 r^2 \sin^2 \varepsilon = a^2 [a^2 + (l+r)^2 - r^2 \sin^2 \varepsilon]$$

$$\sin d = \frac{r(l+r) \sin \varepsilon + a \sqrt{a^2 + (l+r)^2 - r^2 \sin^2 \varepsilon}}{a^2 + (l+r)^2}$$

$$a = 0$$

$$\sin d = \frac{r}{r+l} \sin \varepsilon$$

$$\left| \sin(\delta - \varepsilon - \gamma) \right| = \frac{r}{r+l} \sin \varepsilon$$

$$\delta = \pi - 2\varepsilon - \gamma \quad \xi = r \sin(\gamma + \delta)$$

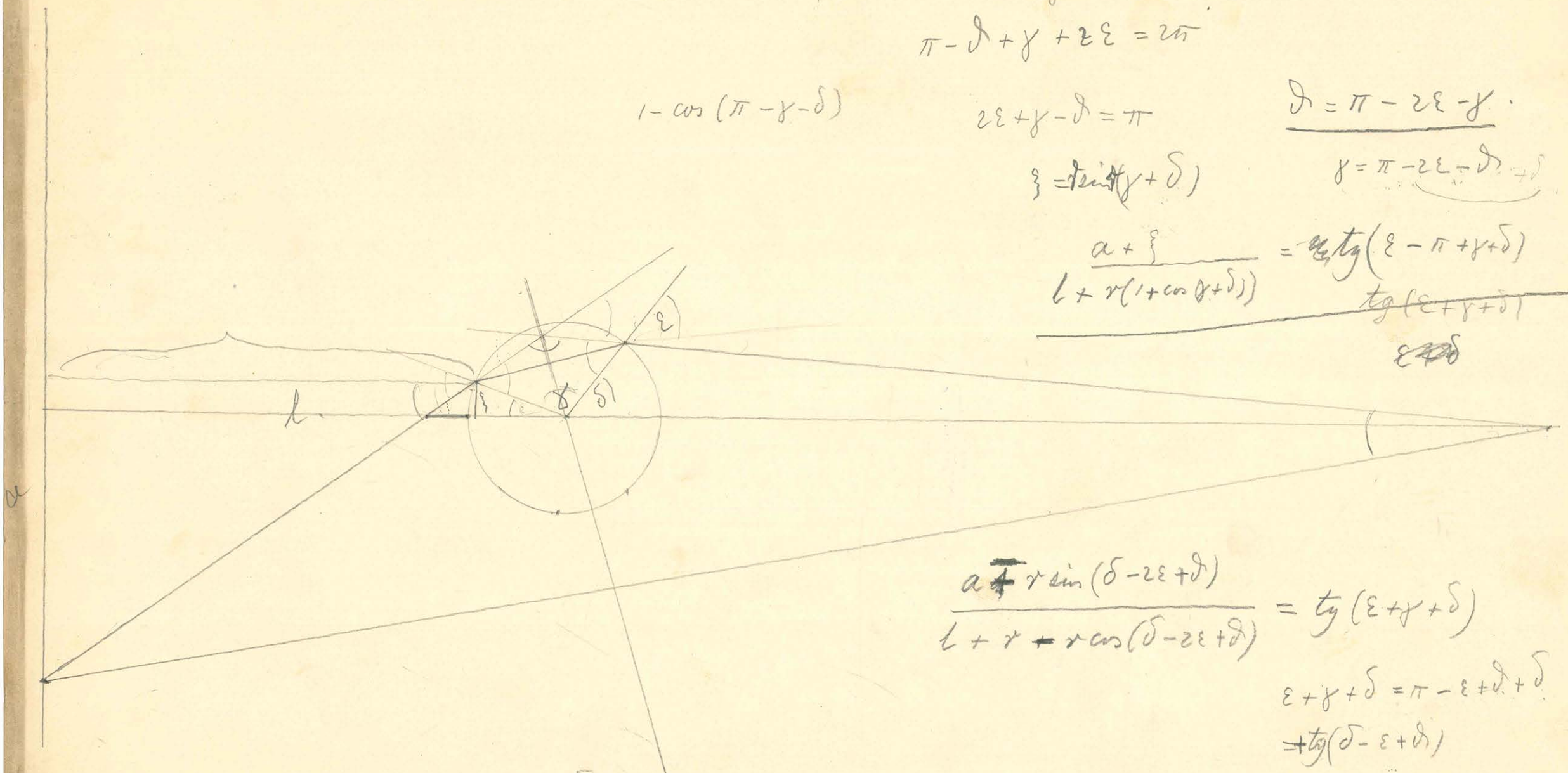
$$\frac{l+r}{r} = \frac{\sin(\pi - \delta - \varepsilon)}{\sin \delta} = \frac{\sin(\delta + \varepsilon)}{\sin \delta}$$

$$\frac{l+r}{r} = \frac{\sin(\pi - 2\varepsilon - \gamma + \varepsilon)}{\sin \delta} = \frac{\sin(\gamma + \varepsilon)}{\sin \delta} = \frac{\sin \delta}{\sin \delta}$$

$$\sin \delta = \frac{r}{l+r} \sin \delta$$

$$\frac{l+r}{r} = \frac{\sin(\pi - \delta - (\pi - \gamma - \delta))}{\sin \delta} = \frac{\sin(\gamma + \delta - \delta)}{\sin \delta}$$

$$\frac{l+r}{r} = \frac{\sin(\pi - \varepsilon)}{\sin \delta} = \frac{\sin \varepsilon}{\sin \delta}$$



$$\gamma = \pi + \delta - 2\varepsilon$$

$$\gamma + \delta = \pi + \delta + \delta - 2\varepsilon$$

$$\pi - \delta + \gamma + 2\varepsilon = 2\pi$$

$$1 - \cos(\pi - \gamma - \delta)$$

$$2\varepsilon + \gamma - \delta = \pi$$

$$\delta = \pi - 2\varepsilon - \gamma$$

$$\gamma = \pi - 2\varepsilon - \delta$$

$$\gamma = \pi - 2\varepsilon - \delta$$

$$\frac{a + \{ \}}{l + r(1 + \cos(\gamma + \delta))} = \frac{a \cdot \text{tg}(\varepsilon - \pi + \gamma + \delta)}{\text{tg}(\varepsilon + \gamma + \delta)}$$

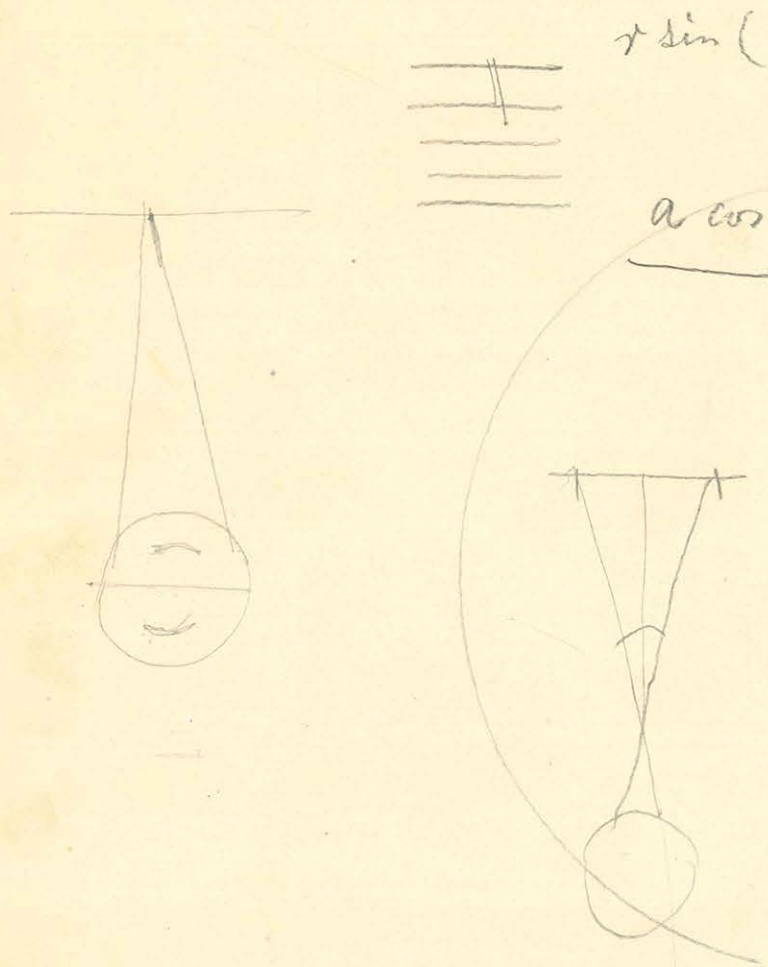
$$\frac{a + r \sin(\delta - 2\varepsilon + \delta)}{l + r + r \cos(\delta - 2\varepsilon + \delta)} = \text{tg}(\varepsilon + \gamma + \delta)$$

$$\varepsilon + \gamma + \delta = \pi - \varepsilon + \delta + \delta$$

$$+ \text{tg}(\delta - \varepsilon + \delta)$$

$$\frac{a + r \sin(\delta - 2\varepsilon + \delta)}{l + r + r \cos(\delta - 2\varepsilon + \delta)} = \text{tg}(\delta - \varepsilon + \delta)$$

$$+ a \cos(\delta - \epsilon + \theta) + r \cos(\delta - \epsilon + \theta) \sin(\delta - 2\epsilon + \theta) = (l+r) \sin(\delta - \epsilon + \theta) - r \sin(\delta - \epsilon + \theta) \cos(\delta - 2\epsilon + \theta)$$



$r \sin(\epsilon)$

$$a \cos(\delta - \epsilon + \theta) + r \sin \epsilon = (l+r) \sin(\delta - \epsilon + \theta)$$

$$(\delta - \epsilon + \theta) = \alpha$$

$$a^2 - a^2 \sin^2 \alpha = (l+r)^2 \sin^2 \alpha + r^2 \sin^2 \epsilon - 2r(l+r) \sin \epsilon \sin \alpha$$

$$\sin^2 \alpha - \frac{2r(l+r) \sin \epsilon}{a^2 + (l+r)^2} \sin \alpha + \frac{r^2 \sin^2 \epsilon - a^2}{a^2 + (l+r)^2} = 0$$

$$\sin \alpha = \frac{r(l+r) \sin \epsilon}{a^2 + (l+r)^2} \pm \sqrt{\frac{r^2(l+r)^2 \sin^2 \epsilon}{(a^2 + (l+r)^2)^2} - \frac{r^2 \sin^2 \epsilon - a^2}{a^2 + (l+r)^2}}$$

~~$\sin \alpha = \frac{r(l+r) \sin \epsilon}{a^2 + (l+r)^2} + a \sqrt{\frac{r^2 \sin^2 \epsilon}{(a^2 + (l+r)^2)^2} - \frac{r^2 \sin^2 \epsilon - a^2}{a^2 + (l+r)^2}}$~~

$$\sin \alpha = \frac{r^2(l+r)^2 \sin^2 \epsilon - a^2 r^2 \sin^2 \epsilon + a^4 - r^2(l+r) \sin^2 \epsilon + a^2(l+r)^2}{(a^2 + (l+r)^2)^2}$$

$$a^2 [a^2 + (l+r)^2] - a^2 r^2 \sin^2 \epsilon$$

Deckel

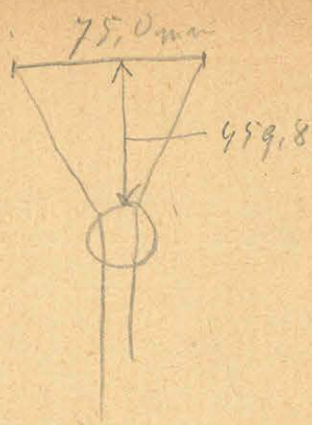
Ellenmaß 5980 = 2,975 dm

Görben

den 24,4) 308,6
von 33,0

den 33,5) 308,4
von 75,1

x = 308,6



den 24,1) 308,8
von 32,9

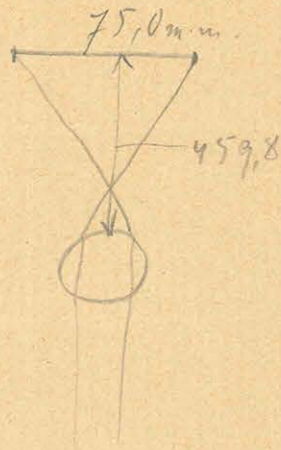
den 33,2) 308,7
von 29,5

Tropfen

den 36,0) 403,8
von 52,2

den 52,1) 403,4
von 35,5

x = 403,6



den 35,9) 403,7
von 52,2

den 52,3) 403,6
von 35,9

Ellenmaß 5980

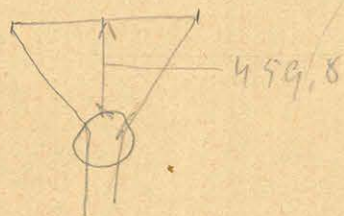
t = 170,9

Ellenmaß 603,4 = 3,043 dm

Tropfen

~~den~~
den 29,6) 735,6
von 14,0

den 13,8) 735,2
von 29,0



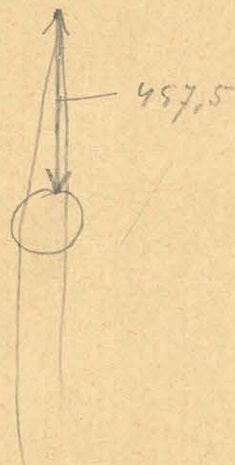
den 14,0) 712,3
von 21,7

den 23,8) 710,2
von 14,0

den 12,2) 710,0
von 22,2

den 24,0) 710,0
von 14,0

x = 710,1



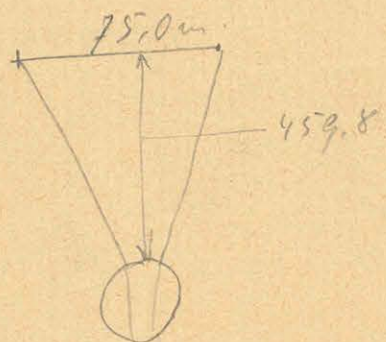
den 13,0) 710,0
von 23,0

Gör

den 4,1) 394,9
von 39,0

den 39,5) 395,3
von 4,2

x = 395,0



den 4,1) 394,9
von 39,0

den 38,9) 394,8
von 4,1

Ellenmaß 603,5

t = 183,5

Ellenőrzés 606,2

Győzővel, a társaság bejárati

elő 42,9 549,6 mín 51,9) 546,9
elő 52,5

Töredék

elő 38,0 680,2 mín 59,0) 687,2
elő 58,2

Ellenőrzés 606,5

Ellenőrzés 604,9

Győző

elő 23,4 467,6 mín 11,6) 467,7
elő 11,0 x=467,7

elő 23,0 468,0 mín 12,1) 467,6
elő 10,0 24,5

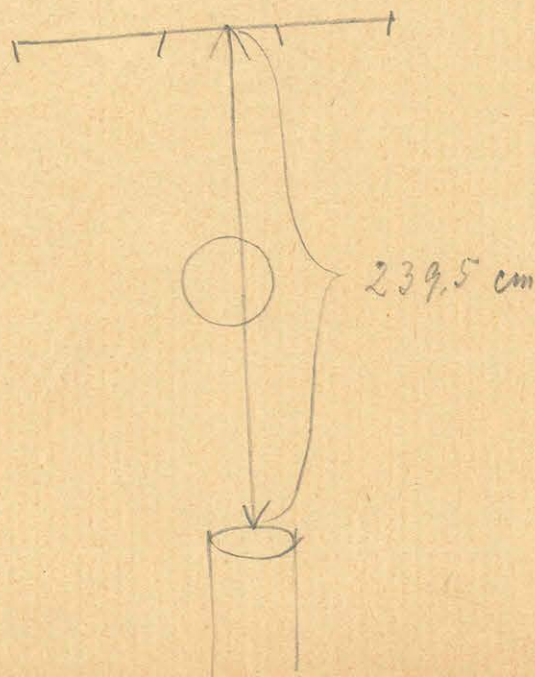
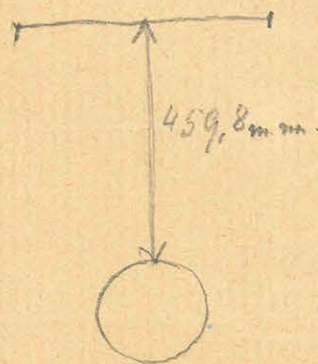
Töredék

elő 10,0 640,7 mín 50,0) 640,8
elő 50,0 9,2

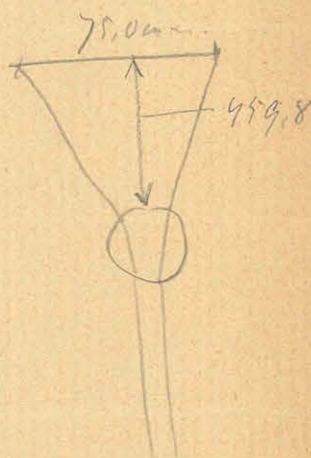
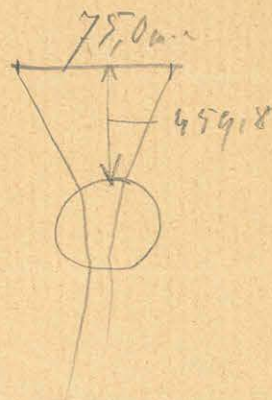
elő 7,0 640,7 mín 50,0) 640,8
elő 47,7 9,2

Ellenőrzés 604,9

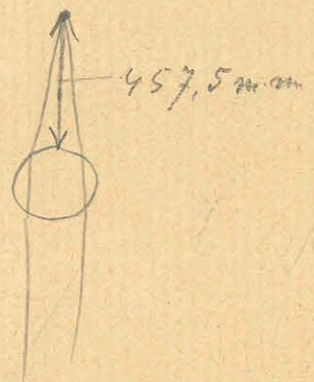
A csőben gyenge felhő megalakozik



Ellenőrzés 608,2 és a körvonal
események



x=640,7



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Az ablak leveleire adott ellenérték 520,4 Külső térség 18,0
 30 perces ablak leveleire adott ellenérték 520,5 " " 18,0

Ringhatárolás

A társó a fofadék vonalaira beállítva

előre 43,4) 937,6 víz 59,4) 937,4
 21,0)
 víz 43,8) 937,3 víz 0,9) 937,1
 21,1) 23,8)

R = 937,4

A társó a gör vonalaira állítva

előre 35,2) 918,3 víz 31,1) 912,3
 53,5)
 víz 38,1) 917,0 víz 35,1) 917,6
 55,1) 17,5)
 víz 40,0) 917,5
 57,5)

R = 917,6

Ellenérték 520,6 ; térség 18,3

Újra ámszabottva 1843 k méretem 2.

Gyűrű

Ellenérték 606,3

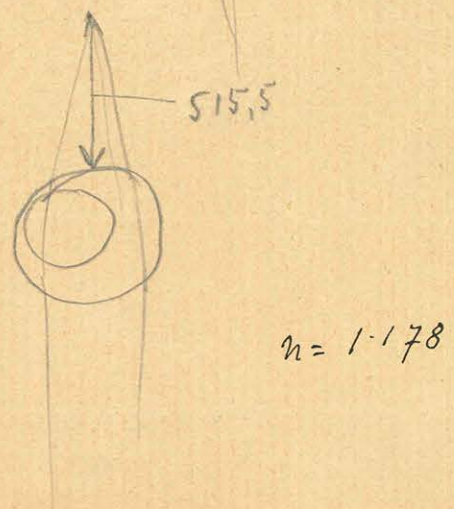
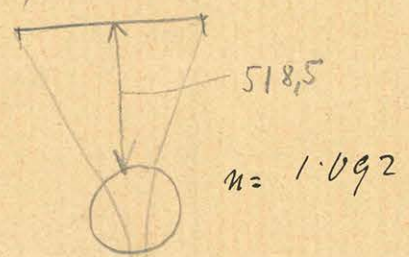
előre 32,8) 533,2 víz 27,0) 534,0
 26,0) 33,0) 533,7
 víz 33,0) 533,7 víz 26,2) 522,7
 26,7) 32,6)

Fofadék

víz 23,1) 739,9 víz 35,0) 731,5
 33,0) 22,5)
 víz 23,0) 731,5 víz 35,2) 732,3
 34,5) 22,0)

Ellenérték 606,2

Méremek igen vékony



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Ellenatlas Bob. 1

Görben

45,9
dör 34,8 } 528,9

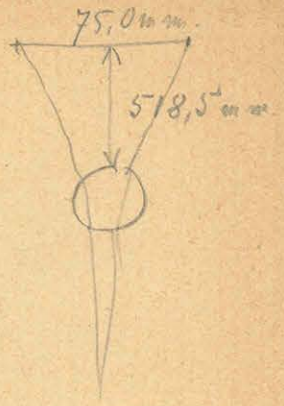
35,2
vör 45,8 } 529,4

$x = 529,0$

45,7
vör 34,6 } 528,9

35,0
vör 46,2 } 528,8

$n = 1.091$



Tafeldek

16,0
dör 25,9 } 729,9

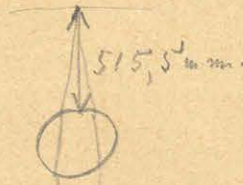
25,8
vör 15,3 } 730,5

730,1

14,8
dör 24,3 } 729,5

24,8
vör 14,4 } 730,4

$n = 1.176$



Ellenatlas Bob. 1

Merincen ~~...~~ ija vörong

R₁ + maphatöröia mm erben:

	74,85	74,85	74,85
	72,90	72,91	72,90
	61,60	61,59	61,59
	59,55	59,55	59,54
R	15,30	15,30	15,31
r	11,30	11,32	11,31

A vöröel maphatöröia:

	75,05	75,05
	73,28	73,27
	61,70	61,69
	59,86	59,83
R	15,19	15,22
r	11,58	11,58

R₂ maphatöröia:

75,10	75,10
73,28	73,27
61,71	61,71
59,89	59,89
R	15,21
r	11,57

	75,05	75,05
	73,20	73,20
	61,74	61,76
	59,86	59,86
R	15,19	15,19
r	11,46	11,44

75,21	75,21
73,20	73,18
61,84	61,84
59,87	59,87
R	15,34
r	11,36

R = 15,25 mm
r = 11,45

Alkylaalien korjennukset

$2R = 15,25 \text{ n.m.}^2$
 $R = 7,63$

$2r = 11,45$
 $r = 5,73$

$n_{23} = \frac{15,25}{11,45} = 1,332$

$\frac{R}{r} = 1,332$

Tofadok

Temp. $2R = 937,4$
 $a = 112,5$

Temp. = 18,2

$x = 464,7$ $S = 29,718$
 $\frac{x}{R} = 0,4957$ $\varepsilon - S = 0,184^\circ$
 $\varepsilon = 29,832^\circ$
 $\beta - \gamma = 6,400^\circ$
 $\delta = 14,100$
 $\alpha = 29,226$

$n = 1,354$

Gör

$2R = 917,6$
 $a = 37,5$

$x = 205,1$ $S = 12,916$
 $\frac{x}{R} = 0,22342$ $\varepsilon - S = 0,052^\circ$
 $\varepsilon = 12,968^\circ$

$\beta - \gamma = -4,326^\circ$

$n = 0,9710$

Temp. 108,6

$2R = 938,1$ $S = 40,305$
 $x = 506,8$ $\varepsilon - S = 0,149^\circ$
 $\frac{x}{R} = 0,64685$ $\varepsilon = 40,454^\circ$
 $\delta = 14,273^\circ$
 $\beta - \gamma = 8,831^\circ$
 $\alpha = 42,148^\circ$

$n = 1,284$

$x = 228,2$ $S = 14,400$
 $\frac{x}{R} = 0,24870$ $\varepsilon - S = 0,060^\circ$
 $\varepsilon = 14,460^\circ$
 $\delta = -4,294^\circ$
 $\beta - \gamma = 3,035^\circ$

$n = 0,985$

Temp. = 134,7

$2R = 927,383$ $S = 16,399$
 $a = 37,5$ $\varepsilon - S = 0,065^\circ$
 $x = 204,9$ $\varepsilon = 16,464^\circ$
 $\frac{x}{R} = 0,28232$ $\delta = 4,916^\circ$
 $\beta - \gamma = 3,463^\circ$
 $\alpha = 17,469^\circ$

$n = 1,252$

$x = 246,6$ $S = 15,574$
 $\frac{x}{R} = 0,26848$ $\varepsilon - S = 0,062^\circ$
 $\varepsilon = 15,636^\circ$
 $\delta = -4,274^\circ$
 $\beta - \gamma = 3,286^\circ$

$n = 0,994$

Temp. = 170,9

$2R = 938,6$ $S = 25,468$
 $x = 403,6$ $\varepsilon - S = 0,099^\circ$
 $\frac{x}{R} = 0,43000$ $\varepsilon = 25,567^\circ$
 $\delta = 5,059^\circ$ $n =$
 $\beta - \gamma = 5,438^\circ$

$R = 918,8$ $S = 19,626$
 $x = 308,6$ $\varepsilon - S = 0,078^\circ$
 $\frac{x}{R} = 0,33588$ $\varepsilon = 19,704^\circ$
 $\delta = -4,195^\circ$
 $\beta - \gamma = 4,158^\circ$

$n = 1,022$

$n = 1,202$

Temp. = 183,5

$2R = 938,7$ $S = 49,153$
 $x = 710,1$ $\varepsilon - S = 0,171^\circ$
 $\frac{x}{R} = 0,75647$ $\varepsilon = 49,324^\circ$
 $\delta = 0,884^\circ$
 $\beta - \gamma = 10,942^\circ$

$R = 918,9$ $S = 25,459$
 $x = 395,0$ $\varepsilon - S = 0,099^\circ$
 $\frac{x}{R} = 0,42986$ $\varepsilon = 25,558^\circ$
 $\delta = -4,086^\circ$
 $\beta - \gamma = 5,437^\circ$

$n = 1,050$

$n = 1,169$

Temp. =

$x = 640,7$ $\varepsilon - S = 0,156^\circ$
 $\frac{x}{R} = 0,68253$ $S = 43,041^\circ$
 $\varepsilon = 43,197^\circ$
 $\delta = 0,801^\circ$
 $\beta - \gamma = 9,478^\circ$

~~$n = 1,067$~~
 $n = 1,152$

$x = 467,7$ $\varepsilon - S = 0,120^\circ$
 $R = 918,9$ $S = 30,596^\circ$
 $\frac{x}{R} = 0,50898$ $\varepsilon = 30,716^\circ$
 $\delta = -3,991^\circ$
 $\beta - \gamma =$

$n = 1,070$

Quadratfehler der Elimination = 0,0276 Blm.

$w_0 = 2,096$

$t = \frac{-0,002475 + \sqrt{0,002475^2 + 4 \cdot 0,00000594 \cdot \frac{w_t - w_0}{w_0}}}{2 \cdot 0,00000594}$

$w_t = \frac{623}{377} \cdot 2 \text{ Blm}$

$1623 = \frac{79449}{30103}$
 $5977 = \frac{57643}{51909}$
 $\sum w_t = 51909$

$w_t = \frac{3,3044}{0,276}$
 $w_t = 3,277$
 $w_0 = 2,096$
 $1,181$

$1,181 = 0,07225$
 $\sum w_0 = \frac{0,32139}{0,75086-1}$
 60206
 $77379-7$
 $0,12671-6$

$d^2 = \frac{0,000006126}{1339}$
 $R^2 = 7465$
 $\sum R^2 = 0,87303-6$
 $\sum R = 0,43657-3$

$2,66257$
 $2,05115$
 $0,38858-1$

Äthylnaechter Kreis mutatorje

Temp = 18,2

R	15,30	r = 11,31
	15,21	58
	15,21	56
	15,19	46
	15,34	35
	17,25	2,26
	15,25	11,45

5,0	4,4	
5,2	9,0	
5,9	5,4	
4,7	3,9	
4,9	3,6	
4,8	5,1	
6,1	4,4	
3,9	5,7	28,1
40,5	41,5	4,7
5,1	5,2	

0,6	18,3
4	17,0
1	7,6
3	7,5
4	30,4
3,4	7,3

$\sum x = 2,66717$
 $\sum R = 2,97192$
 $\sum \sin d = \frac{0,69525-1}{3800} = 3,57978$
 $15,25 = \frac{0,31547-4}{1,18327}$
 $\sum \log(d) = \frac{0,49874-3}{\sum \sin d = 0,38328-1}$

$\sum R = 0,88252$
 $\sum \sin z = 0,69764-1$
 $2R+l = \frac{2,66969}{3,24985}$

$1a = 2,05115$
 $1a^2 = 4,10230$
 $\sum (R+l)^2 = 5,33938$
 $(\sum R)^2 = 218465$
 $\frac{231121}{218465} = a^2 \cdot (\sum R)^2$
 $\sum [a^2 \cdot (R+l)] = 5,36384$
 $\sum \sqrt{\quad} = 2,68192$
 $\sum a = \frac{2,05115}{0,9691} = 4,73307$
 $a\sqrt{\quad} = \frac{54084}{1778} = 55862$

$d = 13,977$
 $\frac{0,181}{d} = 14,158$

$\sum R = 0,88252$
 $\sum r = 0,75815$
 $0,24874 = \frac{\sum R}{\sum r}$
 $\sum R_3 = \frac{0,18273}{0,94164-1}$
 $\sum \frac{R}{r} = 0,88328-1$
 $\sum \sin z = \frac{0,39528-1}{0,27856-1}$

$\beta = 6,732^\circ$
 $\frac{d}{r} = 7,079$
 $z = 29,899$
 $\alpha = 43,710^\circ$
 $\frac{14,158}{\alpha} = 29,552$

$\frac{\sum R}{\sum r} = 0,69525-1$
 $\sum R = 0,12437$
 $\frac{0,81962-1}{0,81962-1} = 0,81962-1$

$\sum R = 1,77312$
 $1,58319 = 0,19953$
 $\sum \sqrt{\quad} = 0,09977$
 $\sqrt{\quad} = 1,25826$
 $\sqrt{\quad} = 0,90006$
 $\frac{0,35820}{\sum \sin z} = \frac{0,55413-1}{0,69764-1}$
 $\sum \sin z = \frac{0,25177-1}{0,18273}$
 $\sum \sin(\beta - \alpha) = \frac{0,06904-1}{0,06904-1}$

$\sum \sin d = \frac{0,53948}{0,98124} = 0,54955$
 $\sum \sin d = \frac{0,69307-1}{0,12655} = 1,338$

Temp m = 1,354 18.0

An aalter k6rimutat6ja a enileleik6il = 1,338

M6is is6lelok min6isi alapj6n = 1,354

R/T corrig6al int6ere : 1,338 = 0.12655

1,354 = 0.13162

0.00507

1(R/T) = 0.12437

1(R/T) = 0.12944

R/r = 1.347

1(R/T)^2 = 0.25888

1n63^2 = 0.36546

0.89342-1

1sm^2 = 0.39528-1

0.28870-1

1 0.19440

1 0.80560 = 0.90612-1

1V = 0.95306

1(R/T) = 1.81500

1 1.62060 = 0.20968

1V = 0.10484

V = 1.27303

V = 0.89756

1 0.37547 = 0.57457-1

1sm^2 = 0.69764-1

0.27221-1

1n63 = 0.18273

0.08948-1

B-y = 7.058

1 2.049

z = 29.899

36.957

7.079

1sm 29.978

1(R/T) = 0.69525-1

1(R/T) = 0.12944

0.82469-1

1sm^2 = 0.68527-1

0.13942

n = 1.379

0.82469-1

1sm^2 = 0.69736-1

0.12733-1

1.341

R/T

1.332

1.338 17

1.347

1.379 25

15x17

105

255:25 = 10.2

35.4

13/3 4

R/T = 1.342

1(R/T) = 0.12775

1(R/T)^2 = 0.25550

1n63^2 = 0.36546

0.89004-1

1sm^2 = 0.39528-1

0.28532-1

1(R/T) = 0.69525-1

1(R/T) = 0.12775

0.82300-1

1sm^2 = 0.69594-1

0.12706-1

n = 1.340

R/T = 1.332

n = 1.338

R/T = 1.347

n = 1.341

1.392

15.34 = 1.338 18583

11.31 = 1.05346

0.13237

1.357

B-y = 6.950

z = 29.899

36.849

7.079

29.770

temp = 139.7

Fogadok

$$\begin{aligned}
 x &= 264.9 \\
 \sum x &= 2.42308 \\
 \sum R &= 2.97234 \\
 \frac{0.45074}{-1} \\
 \sum 3800 &= 3.57978 \\
 \frac{0.87096}{-5} \\
 \sum 15.26 &= 1.18355 \\
 \frac{0.05451}{-3} \\
 \epsilon - \delta &= 0.065 \\
 \frac{4.851}{4.916}
 \end{aligned}$$

$$\begin{aligned}
 \sum a &= 1.57403 \\
 \sum a^2 &= 3.14806 \\
 a^2 &= 1406.2 \\
 (\sum R)^2 &= 218465 \\
 \frac{2.219871}{-1} &= 5.34217 \\
 \sum V &= 2.67109 \\
 \sum a &= 1.57403 \\
 \frac{4.24512}{1011} \\
 a\sqrt{V} &= 17584 \\
 \frac{18595}{-2} &= 4.26940 \\
 \frac{5.34217}{0.92723} &= -2
 \end{aligned}$$

$$\begin{aligned}
 \sum R &= 0.88252 \\
 \sum sm^2 &= 0.45242-1 \\
 \sum (L+R) &= 2.66969 \\
 \frac{3.00463}{-1}
 \end{aligned}$$

$$\begin{aligned}
 \beta - \gamma &= 3.463 \\
 \epsilon &= 16.464 \\
 \frac{19.927}{2} &= 2.458 \\
 \alpha &= 17.469
 \end{aligned}$$

$$\begin{aligned}
 \sum \left(\frac{R}{T} n_{13}\right)^2 &= 0.84594-1 \\
 \sum sm^2 &= 0.90484-2 \\
 \frac{0.75078}{-2}
 \end{aligned}$$

$$\begin{aligned}
 \sum 0.05633 & \quad \sum 0.94367 = 0.97482-1 \\
 1.77312 & \quad \sum V = 0.98741-1 \\
 \sum 1.71679 &= 0.23472 \\
 \sum V &= 0.11736 \\
 \sqrt{V} &= 1.31027 \\
 \sqrt{V} &= 0.97142 \\
 \sum 0.33885 &= 0.53001-1 \\
 \sum sm^2 &= 0.45242-1 \\
 \frac{0.98243}{-2} \\
 \sum n_{13} &= 0.20140 \\
 \frac{0.78103}{-2}
 \end{aligned}$$

$$\begin{aligned}
 \sum \frac{x}{R} &= 0.45074-1 \\
 \sum \frac{R}{T} &= 0.12437 \\
 \frac{0.57511}{-1} \\
 \sum sm^2 &= 0.47740-1 \\
 \frac{0.09771}{-1}
 \end{aligned}$$

$$n = 1.252$$

temp = 170.9

$$\begin{aligned}
 \sum R &= 2.97192 \\
 92942-6 \\
 2.17609 \\
 \frac{0.07743}{1.2}
 \end{aligned}$$

$$\begin{aligned}
 \sum x &= 2.60595 \\
 \sum R &= 2.97248 \\
 \frac{0.63347}{-1} \\
 \sum 3800 &= 3.57978 \\
 \frac{0.05309}{-4} \\
 \sum 15.23 &= 1.18384 \\
 \frac{0.23753}{-3}
 \end{aligned}$$

~~5.2~~

$$\begin{aligned}
 \sum R &= 0.88252 \\
 \sum (L+R) &= 2.66969 \\
 \frac{2.21987}{-1} &= 0.21283-2 \\
 \sum sm^2 &= 0.63505-1 \\
 \sum sm^2 &= 0.84788-3 \\
 \alpha &= 0.404 \\
 \frac{0.99}{0.503}
 \end{aligned}$$

$$\begin{aligned}
 \sum \left(\frac{R}{T} n_{13}\right)^2 &= 0.84594-1 \\
 \sum sm^2 &= 0.27010-1 \\
 \frac{0.17604}{-1}
 \end{aligned}$$

$$\begin{aligned}
 0.13063 & \quad \sum 0.86937 = 0.93921-1 \\
 1.77312 & \quad \sum V = 0.96961-1 \\
 \frac{1.64249}{-1} &= 0.21550 \\
 \sum V &= 0.10775 \\
 \sqrt{V} &= 1.28159 \\
 \sqrt{V} &= 0.93242 \\
 \sum 0.34917 &= 0.54303-1 \\
 \sum sm^2 &= 0.63505-1 \\
 \frac{0.17808}{-1} \\
 \sum n_{13} &= 0.20140 \\
 \frac{0.97668}{-2}
 \end{aligned}$$

$$\begin{aligned}
 \sum \frac{x}{R} &= 0.63347-1 \\
 \sum \frac{R}{T} &= 0.12437 \\
 \frac{0.75784}{-1} \\
 \sum sm^2 &= 0.70871-1 \\
 \sum n &= 0.04913 \\
 n &= 1.120
 \end{aligned}$$

$$\begin{aligned}
 \beta - \gamma &= 5.438 \\
 \epsilon &= 25.567 \\
 \frac{31.005}{2} &= 0.252 \\
 \frac{30.753}{-1}
 \end{aligned}$$

a mely esetben $r=R$ is csak egyen $\sin(\beta-\gamma)=0$ $\beta-\gamma=0$

a mielőtt $\sin \alpha = \sin(\frac{\pi}{2} - \frac{\delta}{2})$ és.


~~$n = \frac{R}{r}$~~ $n = \frac{1}{R} \frac{1}{\sin(\frac{\delta}{2})}$

HAYAS
TUDOMÁNYOS KÖNYVTÁR

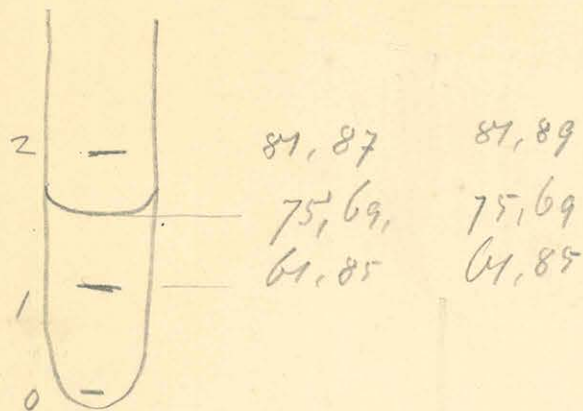
Diphenylamin

1893. március 16 Ellenőrzés 16,1°-nál 532,4.

dilatált Hh. Ellenőrzés 568,2


 dn 67,5 450,0 dn 75,5 449,0 m 20,0 452,5
 17,5

dn 75,0 450,0 m 16,5 449,5 dn 75,0 450,5 m 17,5 450,0
 25,0



Törőmentés

X-mphat...
 dn 52,8 89,3 m 22,0 89,2 52,9 89,1 22,0 89,2
 22,1

Ellenőrzés 568,2

ryyät 12h 20.

Ellenastei 650,2



~~650~~ $\begin{matrix} \text{die } 86,5 \\ 76,5 \end{matrix} \Big) 390,0$ $\begin{matrix} \text{vin } 73,0 \\ 84,0 \end{matrix} \Big) 389,0$

$\begin{matrix} \text{die } 91,0 \\ 80,0 \end{matrix} \Big) 389,0$

$\begin{matrix} \text{vin } 75,0 \\ 87,0 \end{matrix} \Big) 388,0$

$\begin{matrix} \text{die } 92,0 \\ 81,0 \end{matrix} \Big) 389,0$

$\begin{matrix} \text{vin } 76,0 \\ 87,5 \end{matrix} \Big) 388,5$



81,70 81,72

81,28 81,28

61,22 61,22

Tuonin määrittäminen

$\begin{matrix} \text{die } 30,2 \\ 59,0 \end{matrix} \Big) 89,1$

$\begin{matrix} \text{vin } 59,2 \\ 30,0 \end{matrix} \Big) 89,2$

$\begin{matrix} \text{die } 30,2 \\ 59,6 \end{matrix} \Big) 89,4$

$\begin{matrix} \text{vin } 59,4 \\ 30,0 \end{matrix} \Big) 89,4$

1893. maiu. 17.

ryyät

Ellenastei 568,2



$\begin{matrix} \text{die } 28,0 \\ 69,0 \end{matrix} \Big) 441,0$ $\begin{matrix} \text{vin } 63,5 \\ 27,0 \end{matrix} \Big) 436,5$

$\begin{matrix} \text{die } 34,0 \\ 71,5 \end{matrix} \Big) 437,5$

$\begin{matrix} \text{vin } 65,0 \\ 28,5 \end{matrix} \Big) 436,5$

$\begin{matrix} \text{die } 36,0 \\ 72,5 \end{matrix} \Big) 436,5$

$\begin{matrix} \text{vin } 65,5 \\ 29,5 \end{matrix} \Big) 436,0$



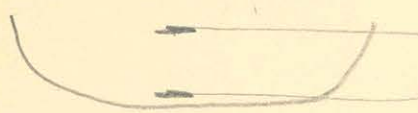
81,82 81,80

75,48 75,50

61,74 61,74

Schubert 56.30

Ellenőrs = 591,2

 $\begin{matrix} \text{d} = 13,5 \\ \text{d} = 13,5 \end{matrix} \left. \vphantom{\begin{matrix} \text{d} \\ \text{d} \end{matrix}} \right) 400,0 \quad \begin{matrix} \text{v} = 9,0 \\ \text{v} = 8,0 \end{matrix} 401,0$

$\begin{matrix} \text{d} = 13,5 \\ \text{d} = 14,7 \end{matrix} \left. \vphantom{\begin{matrix} \text{d} \\ \text{d} \end{matrix}} \right) 401,0 \quad \begin{matrix} \text{v} = 11,0 \\ \text{v} = 10,0 \end{matrix} \left. \vphantom{\begin{matrix} \text{v} \\ \text{v} \end{matrix}} \right) 402,0 \quad \begin{matrix} \text{d} = 13,5 \\ \text{d} = 15,0 \end{matrix} \left. \vphantom{\begin{matrix} \text{d} \\ \text{d} \end{matrix}} \right) 401,5 \quad \begin{matrix} \text{v} = 11,5 \\ \text{v} = 10,0 \end{matrix} \left. \vphantom{\begin{matrix} \text{v} \\ \text{v} \end{matrix}} \right) 401,5$

2 -	84,36	84,37
	76,76	76,75
1 -	61,32	61,38
0 -		

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

1893. márc. 15. Dr. S. Kain's vizsgálása supra visceri.

A. Tarával

4,3	
4,3	7,3
4,4	7,3
4,4	7,2
4,4	
<hr/>	
4,35	7,27

Egyesül = $\frac{11,62}{2} = 5,81$

Szűz

Méreg 23,560 gr.

Méreg 23,565 gr.

	8,7
4,7	8,7
4,7	8,7
4,7	8,7
<hr/>	
4,7	8,7

4,8	6,1
4,8	6,0
4,9	6,0
4,9	
<hr/>	
4,85	6,03

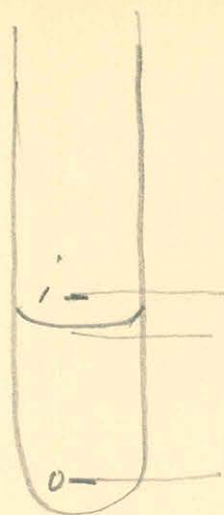
Egyesül = $\frac{13,4}{2} = 6,70$

Egyesül = $\frac{10,88}{2} = 5,44$

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KÖNYVTÁRA

Vizsgálás supra = 23,564 gr.

5 mg = 1,26 outsp
 1 outsp =
 5 = 1,26 = 3,9 mg
 $\frac{784}{1160}$
 0,37 outsp = 1 mg



Temp 16,7

49,10	49,10
46,57	46,57
29,14	29,14

Berume 1 cm³ alkohol

Temp 16,7

Wegesö + 1 cm³ alkohol surfa.

Terävel

	5,6
4,4	5,6
4,5	5,6
<hr/>	
4,45	5,60

Egus = $\frac{10,05}{2} = 5,03$

Luffat

Wegesö	24,375 gr.
4,4	6,4
4,4	6,4
4,4	6,3
4,5	
<hr/>	
4,42	6,37

Wegesö =	24,385 gr.
1,5	4,2
1,6	4,2
1,6	4,1
1,6	
<hr/>	
1,65	4,17

Egus = $\frac{10,79}{2} = \underline{5,40}$

Egus = $\frac{5,72}{2} = 2,86$

Wegesö + 1 cm³ alkohol surfa = 24,376 gr.

1 cg = 2,74 mg

1 sandgr = 1:2,77 = 0,38 mgr = 3,8 mg

$\frac{822}{1780}$

0,36 mgr = 1 mg

3,8 x 36
114

228
1,362

Lemp 16,7

2 -	70,26	70,26
	69,44	69,44
1 -	50,24	50,23
-		

Össze 2 cm³ alkohol

Lemp 16,7

Wegese + 2 cm³ alkohol supra

Temperat

4,3	5,9
4,3	5,9
4,3	5,8
4,4	
<hr/>	
4,38	5,87

Expansio = $\frac{10,25}{2} = 5,13$

Suffal

Wegese 75,1904

4,3	6,1
4,3	6,0
4,3	6,0
4,4	
<hr/>	
4,38	6,03

MAGYAR
HUDOMÁNYOS AKADEMIÁ
KÖNYVTÁRA

Expansio = $\frac{10,41}{2} = 5,21$

Wegese

Wegese + 2 cm³ alkohol supra = 25,191 gr.

Lemp a mibezetkés után 9,3

Törismutató vizsgálata

A víz törismutatója

X vizsgálata

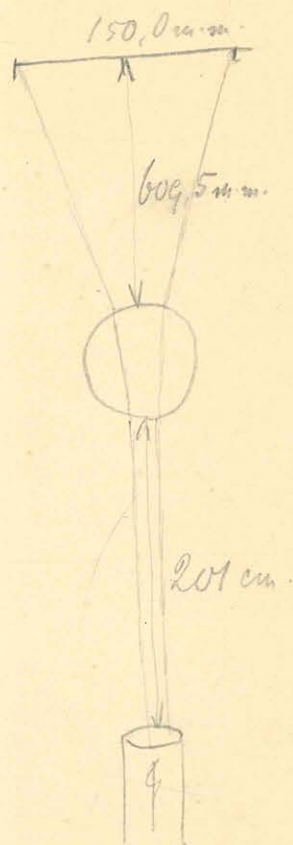
$d_n \begin{matrix} 58,4 \\ 56,3 \end{matrix} \Bigg| 417,9$ $v_n \begin{matrix} 48,8 \\ 50,6 \end{matrix} \Bigg| 418,2$ $d_n \begin{matrix} 51,4 \\ 49,2 \end{matrix} \Bigg| 417,8$ $v_n \begin{matrix} 49,1 \\ 51,0 \end{matrix} \Bigg| 418,1$
 $d_n \begin{matrix} 51,0 \\ 49,0 \end{matrix} \Bigg| 418,0$ $\begin{matrix} 48,2 \\ 50,4 \end{matrix} \Bigg| 417,8$ $\begin{matrix} 51,2 \\ 49,1 \end{matrix} \Bigg| 417,9$ $\begin{matrix} 49,1 \\ 51,0 \end{matrix} \Bigg| 418,1$

$x = 418,0$

R vizsgálata

$d_n \begin{matrix} 18,8 \\ 57,1 \end{matrix} \Bigg| 818,3$ $v_n \begin{matrix} 18,9 \\ 41,9 \end{matrix} \Bigg| 817,0$ $d_n \begin{matrix} 19,2 \\ 57,0 \end{matrix} \Bigg| 817,8$
 $d_n \begin{matrix} 18,3 \\ 57,6 \end{matrix} \Bigg| 817,7$ $d_n \begin{matrix} 18,9 \\ 57,5 \end{matrix} \Bigg| 818,6$ $\begin{matrix} 20,0 \\ 42,1 \end{matrix} \Bigg| 817,9$
 $\begin{matrix} 20,2 \\ 58,8 \end{matrix} \Bigg| 818,6$ $\begin{matrix} 21,2 \\ 5 \end{matrix}$

$2R = 818,0$
 $2R = 1519 \quad 15,095$
 $R = 7,548$



A belső "aknéró" vizsgálata

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

								44,63	44,63
1cm ³						26,20	26,19		
1cm ³		31,63	31,62	31,66	31,65	31,70	31,70	31,67	31,67
1cm ³		19,11	19,10	27,66	27,66				
		12,52	12,52	3,98	3,99	4,50	4,49	12,96	12,96
1cm ³				61,88	61,88				
1cm ³		53,47	53,47			61,45	8,46	r = 6,134	
1cm ³						52,39	8,40	r = 6,156	
1cm ³						44,59	8,46	r = 6,134	
1cm ³						36,13	8,49	r = 6,123	
1cm ³						31,63	8,53	r = 6,109	
						27,64			
						19,11			
		32,10	32,11	32,05	32,06				
		27,37	27,36	29,83	29,82				

1 cm forma a la escoba

$\begin{matrix} \text{di} & 22,2 \\ & 24,0 \end{matrix} \Big) 541,8$
 $\begin{matrix} \text{vi} & 24,2 \\ & 22,2 \end{matrix} \Big) 542,0$
 $\begin{matrix} 22,2 \\ 24,0 \end{matrix} \Big) 541,8$
 $\begin{matrix} 24,0 \\ 22,1 \end{matrix} \Big) 541,9$

$10 \text{ mm} = 541,9$

Ugra sin cadete

$\begin{matrix} \text{vi} & 43,1 \\ & 48,9 \end{matrix} \Big) 414,2$
 $\begin{matrix} \text{di} & 48,3 \\ & 43,0 \end{matrix} \Big) 414,7$
 $\begin{matrix} \text{vi} & 43,2 \\ & 48,2 \end{matrix} \Big) 415,0$
 $\begin{matrix} \text{di} & 48,6 \\ & 43,3 \end{matrix} \Big) 414,7$

$\begin{matrix} \text{vi} & 43,4 \\ & 49,2 \end{matrix} \Big) 414,2$
 $\begin{matrix} \text{di} & 48,6 \\ & 43,6 \end{matrix} \Big) 415,0$
 $\begin{matrix} 43,8 \\ 47,9 \end{matrix} \Big) 415,9$
 $\begin{matrix} 47,6 \\ 52,6 \\ 56,8 \end{matrix} \Big) 415,8$

$\begin{matrix} 10,0 \\ 3,8 \end{matrix} \Big) 413,8$
 $\begin{matrix} 4,1 \\ 9,0 \end{matrix} \Big) 415,1$
 $\begin{matrix} \text{di} & 45,0 \\ & 40,4 \end{matrix} \Big) 415,4$
 $\begin{matrix} 42,5 \\ 47,7 \end{matrix} \Big) 414,8$

$\begin{matrix} 46,1 \\ 41,5 \end{matrix} \Big) 415,4$
 $\begin{matrix} 43,1 \\ 47,7 \end{matrix} \Big) 415,4$
 $\begin{matrix} 46,0 \\ 41,7 \end{matrix} \Big) 415,7$
 $\begin{matrix} 42,0 \\ 46,4 \end{matrix} \Big) 415,7$

$\begin{matrix} 46,7 \\ 42,2 \end{matrix} \Big) 415,5$
 $\begin{matrix} 42,7 \\ 47,1 \end{matrix} \Big) 415,6$
 $x = 415,5$

Rancharia

$\begin{matrix} \text{di} & 40,4 \\ & 19,1 \end{matrix} \Big) 818,7$
 $\begin{matrix} \text{vi} & 41,1 \\ & 2,2 \end{matrix} \Big) 818,9$
 $\begin{matrix} \text{di} & 40,1 \\ & 18,6 \end{matrix} \Big) 818,5$
 $\begin{matrix} \text{vi} & 41,1 \\ & 2,2 \end{matrix} \Big) 818,9$

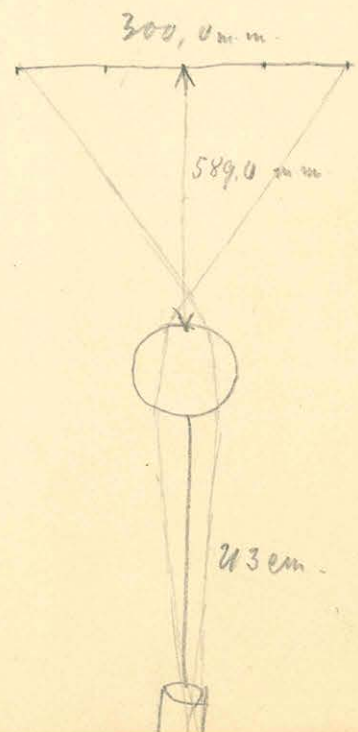
$2R = 818,8$
 $2R = 157,110$

A vir tres muntalaja

$\begin{matrix} \text{di} & 19,0 \\ & 3,7 \end{matrix} \Big) 404,7$
 $\begin{matrix} \text{vi} & 4,5 \\ & 19,7 \end{matrix} \Big) 404,8$
 $\begin{matrix} \text{di} & 19,3 \\ & 3,9 \end{matrix} \Big) 404,6$
 $\begin{matrix} 4,5 \\ 19,2 \end{matrix} \Big) 405,3$

$\begin{matrix} \text{di} & 19,6 \\ & 3,9 \end{matrix} \Big) 404,3$
 $\begin{matrix} \text{vi} & 4,4 \\ & 19,8 \end{matrix} \Big) 404,6$
 $\begin{matrix} \text{di} & 19,6 \\ & 4,5 \end{matrix} \Big) 404,9$
 $\begin{matrix} 4,2 \\ 19,5 \end{matrix} \Big) 404,7$

$\begin{matrix} \text{di} & 19,8 \\ & 4,6 \end{matrix} \Big) 404,8$
 $\begin{matrix} 4,3 \\ 19,5 \end{matrix} \Big) 404,8$
 $x = 404,8$



Arsivoel 90°-kal myfryghe.

div 25,0) 404,3	div 9,2) 403,6	25,3) 404,4	div 9,6) 404,4
9,3	25,6	9,7	25,2
div 25,3) 404,3	div 9,8) 404,5	25,4) 404,4	x = 404,4
9,6	25,3	9,8	

Arsivoel 45°-kal vinn fygh

div 32,7) 404,1	div 17,1) 404,7	32,8) 404,0	17,1) 404,6
16,8	32,4	16,8	32,5
32,8) 404,1	div 16,6) 404,3	32,6) 404,1	16,8) 404,3
16,9	32,3	16,7	32,5
32,6) 404,3	16,8) 404,3		x = 404,3
16,9	32,5		

90°-kal troob fygh eter

28,1) 404,4	12,8) 404,7	28,2) 404,6	13,0) 404,8
12,5	28,1	12,8	28,2
28,2) 404,5	12,9) 404,8		x = 404,6
12,7	28,1		

45°-kal eton

20,0) 404,9	4,8) 404,7	20,2) 404,9	5,0) 405,0
4,9	20,1	5,1	20,0
20,5) 404,8	5,1) 404,7		x = 404,8
5,3	20,4		

Temp 17,0

$$\pi \cdot x = 1000$$

$$\sum 1000 = 3,00000$$

$$\sum n = 0,49715$$

$$\frac{3,00000}{0,49715} = 2,50285$$

$$\sum \frac{1000}{n} = 2,50285$$

$$18,46 = \frac{0,92737}{1,57548}$$

$$0,78774$$

$$2,50285$$

$$\frac{92428}{1,57857}$$

$$0,78929$$

$$2,50285$$

$$\frac{93095}{1,57190}$$

$$0,78595$$

$$2,50285$$

$$\frac{92891}{1,57394}$$

$$0,78692$$

$$\sum 54,19 = 1,73392$$

$$\sum 878,0 = 2,91275$$

$$\sum 15,045 = 1,17883$$

$$a = 75,0$$

$$l = 609,50$$

$$R = 7,55$$

$$(l+R) = 617,05$$

$$(l+R)^2 = 380750$$

$$a^2 = 5625$$

$$\sum (l+R) = 2,79032$$

$$\sum (l+R)^2 = 5,58064$$

$$\sum aV = 4,66875$$

$$\sum a^2(l+R) = 5,58701$$

$$aV = 46639$$

Oring kiritimulaja

$$\sum x = 2,62118$$

$$\sum R = 2,91275$$

$$\sum \sin S = 0,70843-1$$

$$\sum 4020 = 3,60423$$

$$\frac{3,60423}{0,10420-4} = 11,0495$$

$$\frac{11,0495}{0,117883} = 0,28303-3$$

$$\sum (l+R) = 2,79032$$

$$\sum R = 0,87780$$

$$\sum R(l+R) = 3,66812$$

$$\sum \sin z = 0,70982-1$$

$$\frac{0,70982-1}{3,37794} = 0,20718$$

$$\frac{2387,5}{46639} = 0,5119$$

$$\frac{44292}{5,58701} = 7,91318$$

$$\frac{7,91318}{0,05892-1} = 13,414$$

$$6,577$$

$$110$$

$$\frac{6,577}{110} = 0,0597$$

$$n_{23} = 1,5 \quad \sum n_{23} = 0,17609 \quad \sum n_{23}^2 = 0,35218$$

$$\sum R = 0,87780$$

$$\sum r = 0,78774$$

$$\sum \frac{R}{r} = 0,09006$$

$$\sum n_{23} = 0,17609$$

$$\frac{0,17609}{0,91397-1} = 0,20718$$

$$\sum \left(\frac{R}{r}\right)^2 = 0,82794-1$$

$$\sum \sin^2 z = 0,41964-1$$

$$\frac{0,41964-1}{0,24758-1} = 0,82316$$

$$0,17684 \quad \left\{ \begin{array}{l} 0,82316 = 0,91549 \\ 1,51397 \end{array} \right. \quad \sum V = 0,95775$$

$$\sum 1,33713 = 0,12617$$

$$\sum V = 0,06309$$

$$V = 1,15635$$

$$V = 0,90730$$

$$\sum 0,24905 = 0,39629-1$$

$$\sum \sin z = 0,70982-1$$

$$\frac{0,70982-1}{0,10611-1} = 0,70609$$

$$\sum n_{23} = \frac{0,17609}{0,93002-2} = 0,17898$$

$$p-y = 4,883$$

$$z = 30,891$$

$$\frac{30,891}{35,724} = 0,8647$$

$$\frac{0,8647}{3,234} = 0,2674$$

$$\frac{0,2674}{38,958} = 0,00687$$

$$\sum \frac{x}{R} = 0,70843-1$$

$$\sum \frac{R}{r} = 0,09006$$

$$\frac{0,09006}{0,79849-1} = 0,12617$$

$$\sum 23898 = 0,79848$$

$$\frac{0,79848}{0,00000} \quad n = 1,0000$$

Ura me arive

$$\sum 54,19 = 1,73392$$

$$\sum 878,8 = 2,91318$$

$$\sum 15,110 = 1,17926$$

$$\frac{1,17926}{20,103} = 0,05867$$

$$\sum (l+R) = 2,79032$$

$$\sum R = 0,87823$$

$$\sum R(l+R) = 3,66855$$

$$\sum \sin z = 0,70679-1$$

$$\frac{0,70679-1}{3,37534} = 0,20718$$

$$\sum x = 2,61857$$

$$\sum R = 2,91318$$

$$\frac{2,91318}{0,76539-1} = 0,20718$$

$$\sum 4020 = 3,60423$$

$$\frac{3,60423}{0,10116-4} = 11,0495$$

$$\frac{11,0495}{1,17926} = 0,28042-3$$

$$\frac{2323,2}{46639} = 0,4981$$

$$\frac{44266}{5,58701} = 7,91318$$

$$\frac{7,91318}{0,05906-1} = 13,414$$

$$n_{23} = 1,510, \quad \sum n_{23} = 0,17898$$

$$\sum \frac{R}{r} = 0,09049$$

$$\sum n_{23} = 0,17898$$

$$\frac{0,17898}{0,92151} = 0,1932$$

$$\sum \left(\frac{R}{r}\right)^2 = 0,82302-1$$

$$\frac{0,82302-1}{0,41358-1} = 0,82316$$

$$\frac{0,82316}{0,23660-1} = 0,91659-1$$

$$0,17242 \quad \left\{ \begin{array}{l} 0,82758 = 0,91781-1 \\ 1,51692 \end{array} \right. \quad \sum V = 0,95891-1$$

$$\sum 1,34455 = 0,12858$$

$$\sum V = 0,06429$$

$$V = 1,15955$$

$$V = 0,90972$$

$$p-y = 4,832$$

$$z = 30,603$$

$$\frac{30,603}{3,240} = 0,9445$$

$$\frac{0,9445}{38,675} = 0,02442$$

$$\sum 0,24983 = 0,39764-1$$

$$\sum \sin z = 0,70879$$

$$\frac{0,70879}{0,10443-1} = 0,70609$$

$$\sum n_{23} = \frac{0,17898}{0,92545-2} = 0,17898$$

$$0,79588$$

$$0,79581$$

$$0,00007$$

$$n_{23} = 1,500$$

$$\sum R = 0,87823$$

$$\sum r = 0,78774$$

$$\sum \frac{R}{r} = 0,09049$$

$$\sum n_{23} = 0,17609$$

$$\frac{0,17609}{0,91440-1} = 0,20718$$

$$\sum \left(\frac{R}{r}\right)^2 = 0,82880-1$$

$$\sum \sin^2 z = 0,41358-1$$

$$\frac{0,41358-1}{0,24238-1} = 0,82316$$

$$0,17474 \quad \left\{ \begin{array}{l} 0,82526 = 0,91659-1 \\ 1,51692 \end{array} \right. \quad \sum V = 0,95830-1$$

$$\sum 1,34223 = 0,12783$$

$$\sum V = 0,06392$$

$$V = 1,15857$$

$$V = 0,90845$$

$$p-y = 4,870$$

$$z = 30,603$$

$$\frac{30,603}{3,240} = 0,9445$$

$$\frac{0,9445}{38,713} = 0,02442$$

$$\sum \frac{x}{R} = 0,70539$$

$$\sum \frac{R}{r} = 0,09049$$

$$\frac{0,09049}{0,79588} = 0,1137$$

$$\sum 23898 = 0,79617$$

$$\frac{0,79617}{0,99971-1} = 0,79617$$

$$\frac{13348}{128} = 104,28125$$

$$\frac{54}{28} = 1,92857$$

$$\frac{10}{2} = 5$$

$$\frac{16}{13348}$$

$x = 404,8$
 $R = 7,550$
 $a = 589,0$
 $(L+R) = 596,55$

$\int(L+R) = 2,77565$
 $\int(L+R)^2 = 5,55130$

Via Trisimulatoja
 $(L+R)^2 = 355875$
 $a^2 = 22500$
 $a^2(L+R)^2 = 378375$

$\int(a^2(L+R)) = 5,57792$
 $\int V = 2,78896$
 $a = 2,17609$
 $\int aV = 4,96505$
 $aV = 92268$

$\int \frac{R}{T} = 0,09049$
 $\int M_{15} = 0,17840$
 $\int (M_{15} \frac{R}{T}) = 0,91209-1$
 $\int (M_{15} \frac{R}{T})^2 = 0,82418-1$

$x = 404,8$
 $\int x = 2,60724$
 $\int R = 2,91318$
 $\int \sin V = 0,69406-1$
 $\int \cos V = 3,62941$
 $\int 15,110 = 1,17926$
 $\int 0,24391-3$
 $14,463$
 100
 $14,563$

$\int R = 0,87823$
 $\int L+R = 2,77565$
 $3,65388$
 $\int \sin z = 0,69540-1$
 $3,34928$

$\int (\frac{R}{T} M_{15})^2 = 0,82418-1$
 $\int \sin^2 z = 0,39080-1$
 $0,21498-1$
 $0,16405$
 $1,51697$
 $\int 1,35292 = 0,13127$
 $\int V = 0,06564$
 $V = 1,16317$
 $V = 0,91430$

$10,83595 = 0,92218-1$
 $\int V = 0,96109-1$

2235
 92268
 $\int 94503 = 4,97546$
 $\int aV = 5,57792$
 $0,39753-1$

$\int 0,24887 = 0,39597-1$
 $\int \sin z = 0,69540-1$
 $0,09137-1$
 $\int M_{15} = 0,17840$
 $0,91297-2$

$\beta - \gamma = 4,694$
 $\Sigma = 29,729$
 $\int 34,423$
 $\int 7,282$
 $27,141$

$\int \frac{x}{R} = 0,69406$
 $\int \frac{R}{T} = 0,09049$
 $0,78455-1$
 $\int \sin 27,141 = 0,65914-1$
 $\int R = 0,12541$

n = 1,3346

$x = 404,5$
 $\int x = 2,60692$
 $2,91318$
 $\int \sin V = 0,69374-1$
 $3,62941$
 $0,06433-4$
 $1,17926$
 $0,24359-3$
 $14,463$
 101
 $14,564$

$\int \sin z = 0,69509$
 $3,34897$
 2233
 92268
 $\int 94501 = 4,97543$
 $5,57792$
 $0,39751-1$

$\int \sin^2 z = 0,39018-1$
 $0,21436-1$
 $0,16382$
 $1,51697$
 $\int 1,35315 = 0,13134$
 $\int V = 0,06567$
 $V = 1,16324$
 $V = 0,91442$

$10,83618 = 0,92230$
 $\int V = 0,96115$

$\int \frac{x}{R} = 0,69374$
 $0,09049$
 $0,78423$
 65874
 $\int n = 0,12549$

n = 1,3350

$\int 0,24882 = 0,39588-1$
 $\int \sin z = 0,69509$
 $0,09097-1$
 17840
 $0,91257-2$

$\beta - \gamma = 4,690$
 $\Sigma = 29,706$
 $\int 34,396$
 $\int 7,282$
 $27,114$

Más értékek bei $n = \left\{ \begin{matrix} 3,3337 \\ 3333 \\ 3338 \end{matrix} \right\}$ közep $n = \underline{\underline{1,3336}}$

Nový tóni mutatojé

$2R = 15,095$ $r = 6,134$
 $R = 7,548$

$x = 418,0$

$S = 30,731^\circ$
 $\varepsilon - S = 0,110^\circ$
 $\varepsilon = 30,841^\circ$
 $\delta = -6,467$

$n_{23} = 1,500$

$n = 1,0000$

Uy na tuncalliva

$x = 415,5$

$S = 30,494$
 $\varepsilon - S = 0,109$
 $\varepsilon = 30,603$
 $\delta = -6,480$

$n_{23} = 1,500$

$n = ~~1,0000~~ 0,9993$

$n_{23} = 1,510$

$n = 1,0002$

$n_{23} = 1,508$

$n = 1,0000$

A viä tönimutatoja

$x = 404,8$

$a = 150,0 \text{ m.m.}$

$l = 589,0 \text{ m.m.}$

$2R = 15,110$

$r = 6,134$

$S = 29,629$

$\varepsilon - S = 0,100$

$\varepsilon = 29,729$

$\delta = 14,563$

$\beta - \gamma = 4,694$

$n = 1,3348$

Uy bol

$S = 29,605$

$\varepsilon - S = 0,101$

$\varepsilon = 29,706$

$\delta = 14,564$

$x = 404,5$

$a = 150,0$

$$2a^2 = 0,759441$$

$$\lambda a = 0,379721$$

$$g\tau = 0,650045$$

$$g \frac{\tau}{a} = 0,270324$$

$$1 \frac{h}{a} = \frac{0,991359 - 1,863}{0,727035 - 1}$$

$$g \frac{h}{\tau} = 0,721035 - 1$$

$$g\tau = 0,650045$$

$$0,371080$$

$$h = 2,351$$

$$g\tau = 0,497150$$

$$a^2 = 0,759441$$

$$g\tau = 0,650045$$

$$1,906636$$

$$0,497150$$

$$h = 0,371080$$

$$g\tau^2 = 1,300090$$

$$\sqrt{2,168320}$$

John

Mayer

14, 18

$$\begin{array}{r} \log \\ 6,0 \\ 0,6 \\ \hline 0,24 \\ 0,8 \end{array}$$

$$\begin{array}{r} 15,4 \\ 15,4 \\ \hline 1,69411,5 \\ 11,5 \\ \hline 1,265 \end{array}$$

$$\begin{array}{r} 26 \\ 26 \\ \hline 289 \\ 3,7 \times 1,4 \\ \hline 5,18 \\ 1 \end{array}$$

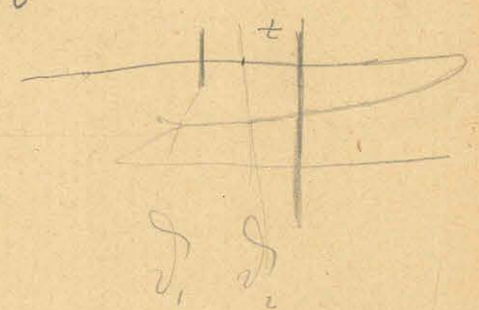
$$\begin{array}{r} 28,4 \\ 36 \\ \hline 4,3 \end{array}$$

$$\begin{array}{r} 7,3 \\ 7,38 \\ \hline 3,7 \times 6 \\ \hline 2,22 \end{array}$$

$$\begin{array}{r} 7,3 \times 1,4 \\ \hline 29,2 \end{array}$$

$$\begin{array}{r} 5,6 \\ 0,6 \end{array}$$

$$\begin{array}{r} 48 \\ 1,10 \\ 1,11 \\ \hline 2,69 \\ 0,90 \end{array} \quad \begin{array}{r} 124,552 \\ 1024 \end{array}$$



$$\begin{aligned} T_1 &= t + a + d_1 t \\ T_2 &= b - d_1 t - d_2 d_2 t \end{aligned}$$

$$\begin{aligned} T_1 &= (1 + d_1) t + a \\ T_2 &= b - d_1 t (1 + d_2) t \end{aligned}$$

$$T_2 = b + d_1 (1 + d_2) \frac{T_1 - a}{1 + d_1}$$

$$T_2 = b - d_1 (T_1 - a) \frac{1 + d_2}{1 + d_1}$$

$$T_1 = a' - t - d_1 t \quad t_1 = \frac{a' - T_1}{1 + d_1}$$

$$\begin{aligned} T_2 &= b + d_1 t + d_1 d_2 t \\ &= b' + d_1 t (1 + d_2) \end{aligned}$$

$$T_2 = b' - d_1 \frac{T_1 - a'}{1 + d_1} (1 + d_2)$$

$$T_2 = b' - d_1 (T_1 - a')$$

$$T_2 = b - d_1 (T_1 - a)$$

13,7	13,6	16,2	19,9	4,9	1,3
	29,8	14,8	19,10	80,1	3,2
	44,6	13,8	19,6		2,38
	58,4	14,0	19,3		
	12,9	13,9	19,2		
	25,0	13,9	19,1		
	38,9	12,8	19,1		
	51,6	12,8	19,0		
	4,3	13,5	19,0		
	17,8				

IV.

Flöz és löbbi viszonyokat kísérletileg is kimutathassuk, mindezt
 előbb egy mozgást kellene leírni, mely a II. 7) egyenletet
 kielégíti. Ezt nem vagyunk képesek. A csavarási ingával azonban
 előállítunk egy mozgást, mely kielégíti a II. 4) egyenletet. Igen
 egyszerű megfontolás megmutatja majd, hogy az észlelési határain
 belül a csavarási inga lengésidejére ugyanazon viszonyok érvényesek,
 mint a minőket az előbbiekben kifejeztünk. Ugyanis a

$$\frac{d^2 \eta}{dt^2} + \varepsilon \frac{d\eta}{dt} + \omega \eta = 0$$

egyenlet képviselte ingamozgás lengés ideje a mielőtt ismertetett:

$$T = \frac{\pi}{\sqrt{\omega - \alpha^2}} \quad \text{ahol} \quad \alpha^2 = \frac{\varepsilon^2}{4}$$

ha $\varepsilon = 0$ azaz $\alpha = 0$ a harmonikus mozgás lengés ideje T_0

$$T_0 = \frac{\pi}{\sqrt{\omega}}$$

α^2 az ω ha képest általában kicsiny; akkor írhatjuk

$$T = \frac{\pi}{\sqrt{\omega}} (1 - \frac{\alpha^2}{\omega})^{-\frac{1}{2}} = \frac{\pi}{\sqrt{\omega}} (1 + \frac{1}{2} \frac{\alpha^2}{\omega}) = T_0 (1 + \frac{1}{2} \frac{\alpha^2 T_0^2}{\pi^2})$$

Ezen ingával, mely invariáns formájú képletet, közelítőleg

$$\alpha = 0,0003 \quad \alpha^2 = 0,00000009$$

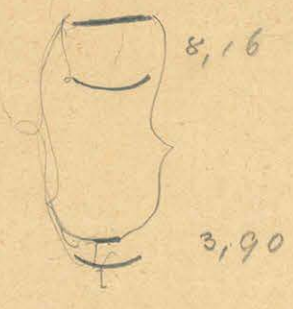
T

2000

5,16
3,90
4,26

15,74

8,16
3,90
20,00



3,301030
1,503791
1,797239
0,497150
1,300089

1000 = 1m.m. kerek 5,6 kord
15,74

$\pi r = 0,650045$
 $r = 4,457$

3,90
4,00

40,00
32,10

31
50 75

3,90
4,00
7,90

2000 1m.m. kerek 35 5 kord
32,10

75 x 31
225
232,5
46,5

9850

12,09
20,02
32,11

$\pi r^2 h = 7100$

2000 = 1m. kerek 2,3 kord
32,11

a.m.

52000 = 32301030
915,74 =

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91000 = 3,000000
115,74 = 1,197005
0,802995

63,532
127,064

1,802995

52000 = 3,301030
332,10 = 1,506505
1,794525

62,305
249,220

1,794515

3,301030
1,506640

31,48
32,10
32,11

70° a² = 5,731
17,5 a² = 5,730

1,794396
1,301464
3,095854
1246,96

5,69
32,90

2,5°

39. $\frac{1,0}{2,5}$

156

a² = 5,747

4. nemi cö" sifa

Csö" i" tóra

4,3
5,2
4,3 5,2

4,4

4,33 5,20

$\text{Átlag} = \frac{9,53}{2} = 4,77$

Suly s tóra

4,3 5,2
4,3 5,2

4,4

$\text{Átlag} = 4,77$

Mérték: 31,943 gr.

5. nemi cö" sifa

Csö" i" tóra

4,4 6,2
6,1
4,4 6,1

4,40 6,13

$\text{Átlag} = \frac{10,53}{2} = 5,27$

Suly s tóra

4,3 5,4
4,3 5,4

4,3

4,30 5,40

$\text{Átlag} = \frac{9,70}{2} = 4,85$

Mérték: 33,999 gr.

Suly s tóra

4,4 5,9
4,4 5,9

4,4

4,40 5,90

$\text{Átlag} = \frac{10,30}{2} = 5,15$

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Mérték: 34,000 gr.

10. namni esu' sutya

Csu' kara

Suly' kara

4,4
5,8

4,4 5,4

4,4
5,7

4,4 5,4

Merlyan 35,117 gr.

4,4

4,4

4,40 5,75

Expensul = 4,90

Expensul = $\frac{10,15}{2} = 5,08$

4,2 6,2

4,3 6,1

Merlyan 35,118 gr.

4,3

4,27 6,15

Expensul = $\frac{10,42}{2} = 5,21$

Csu' kara

12. namni esu' + COS

COS esu'

4,3
4,7

Suly' kara

4,3
4,7

3,7 4,8

Merlyan 30,960 gr.

4,3

3,7 4,8

Expensul = 4,50

3,8

3,73 4,80

Expensul = $\frac{8,53}{2} = 4,27$

$0,001 gr = 0,26 \text{ outipen}$

$\frac{3}{26} = 0,1$

$Csu' + COS = 30,9609 gr.$

4,2

5,1

Merlyan 30,961 gr.

4,2

5,0

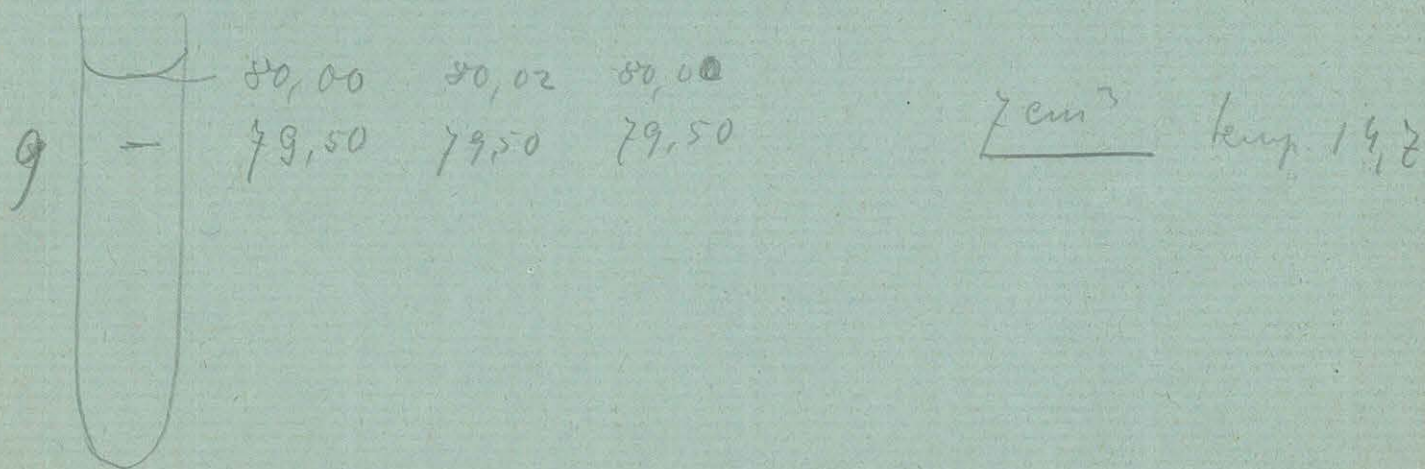
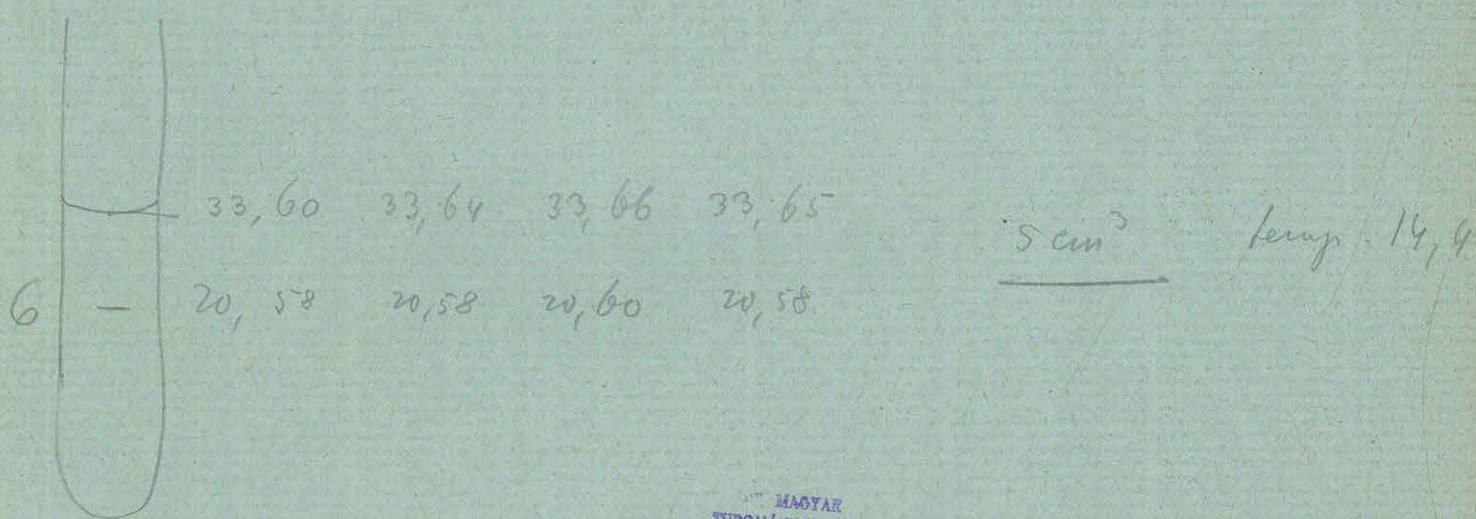
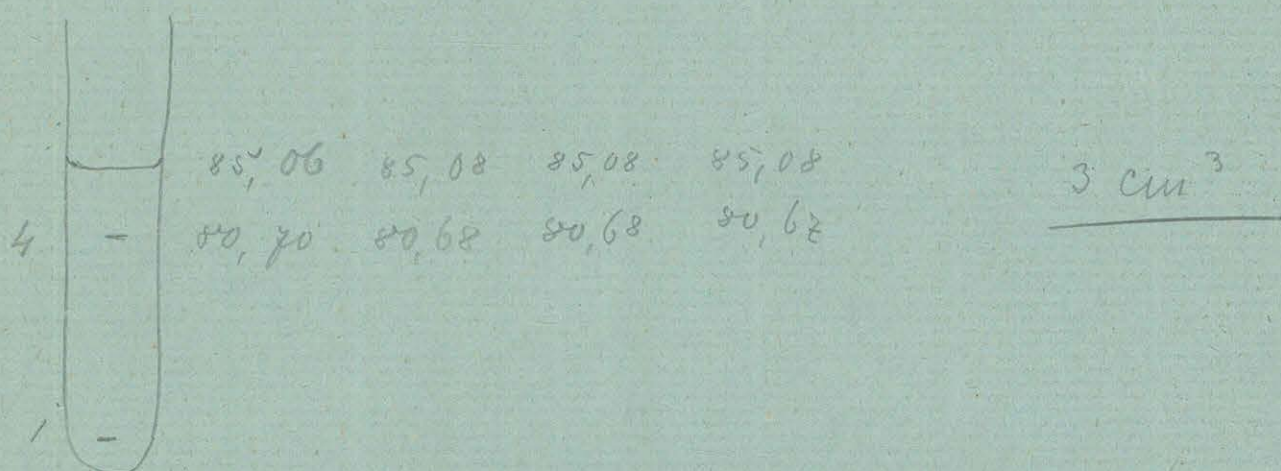
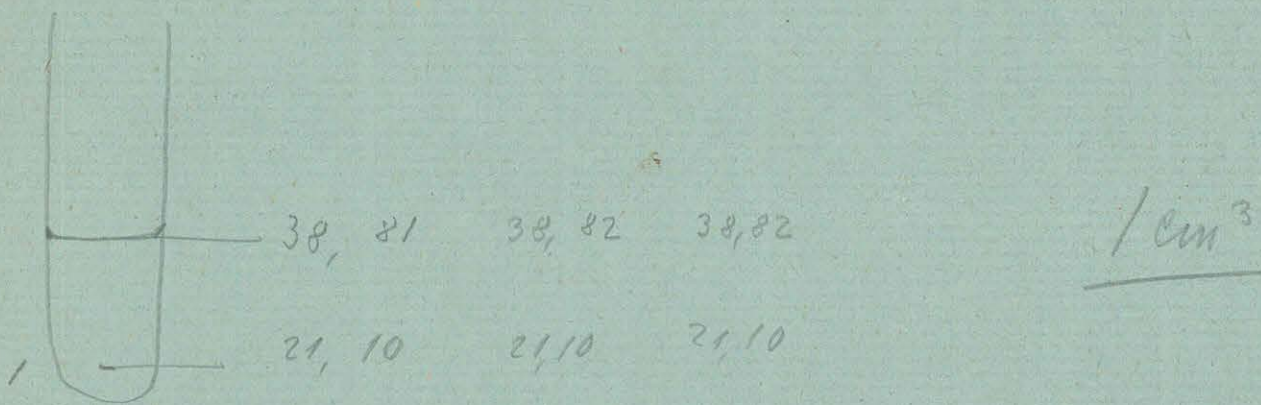
4,2

4,2


5,05

Expensul = $\frac{9,07}{2} = 4,53$

4. némi eső calibrálása

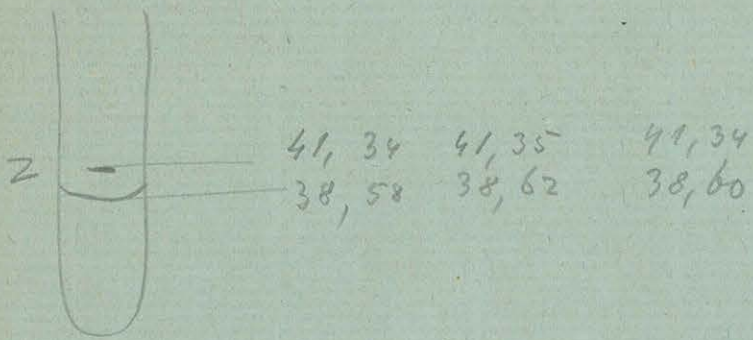


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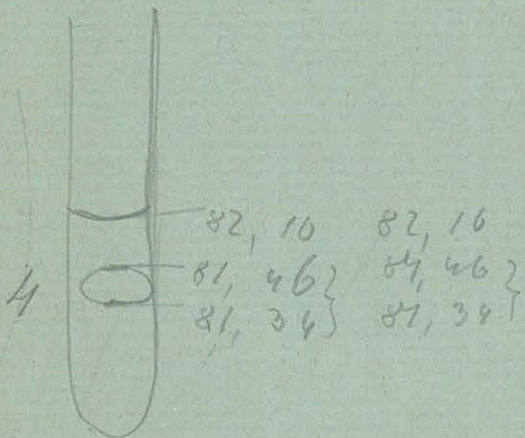


-	163,94	164,04
-	143,90	144,04
-	123,86	124,02
-	103,84	104,04
-	83,86	84,02
-	63,90	64,02
-	43,92	44,02
-	23,90	24,02
-	3,94	4,04

5. namni cso'

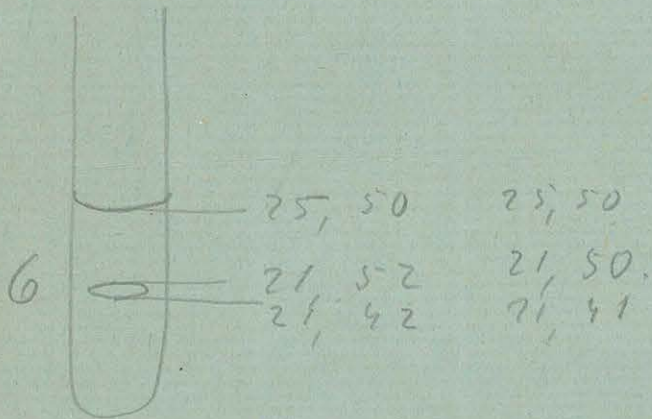


1 cm³

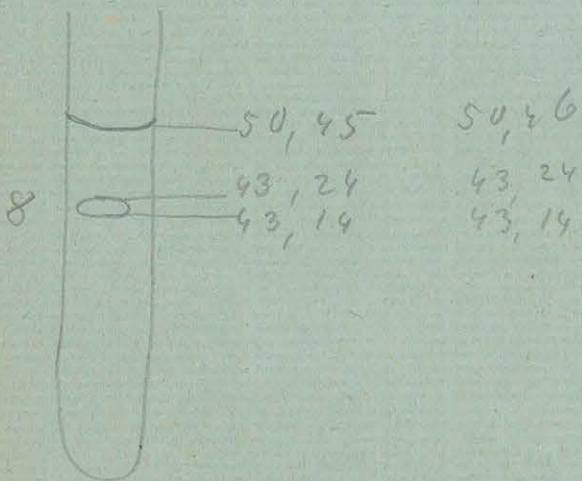


3 cm³

temp. 14,5°



5 cm³



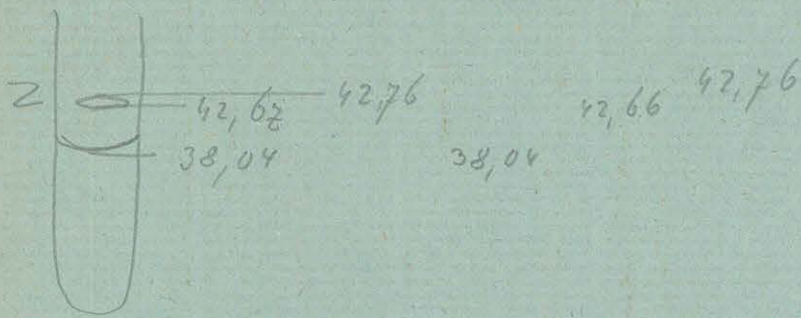
7 cm³

temp. 14,5°

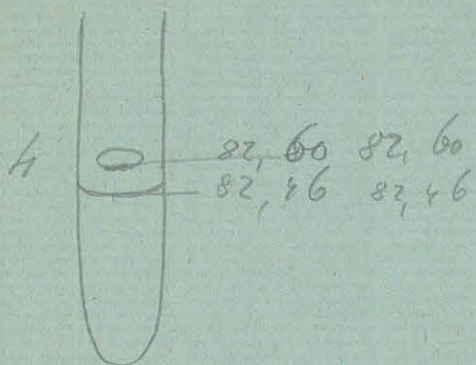
9	122,86	122,95
8	122,88	122,96
7	122,89	122,97
6	102,88	102,98
5	82,88	82,96
4	62,89	62,99
3	42,90	43,00
2	22,86	23,00
1	2,86	3,02

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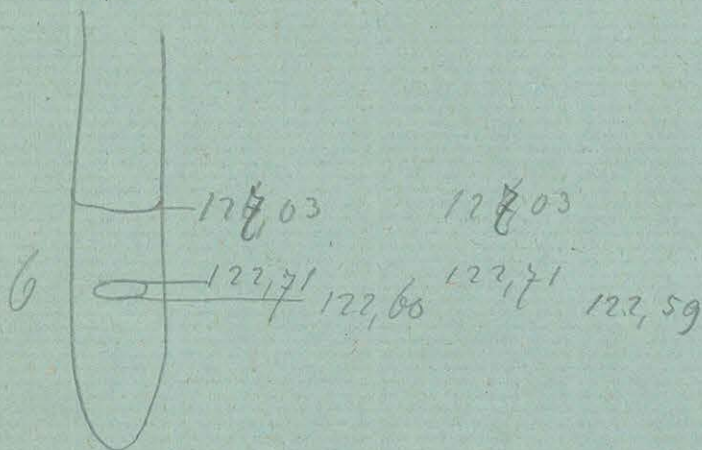
10. 22mm cső kalibrálása



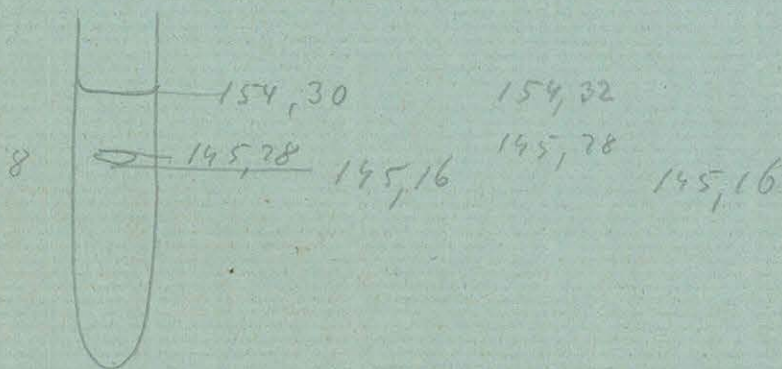
1 cm³ temp. 14,0



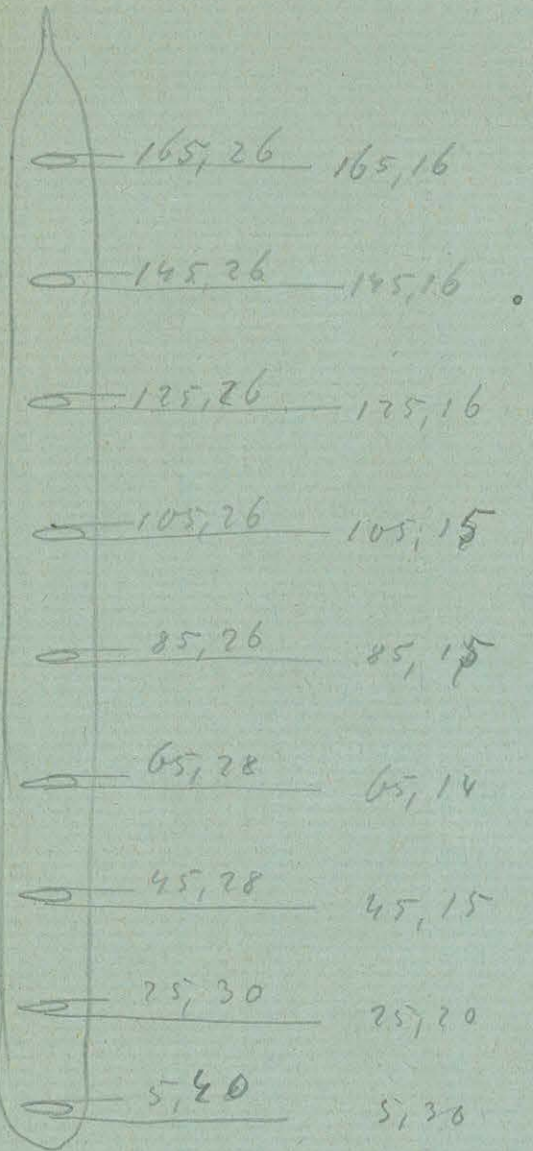
3 cm³ temp. 14,0



5 cm³ temp. 14,1



7 cm³ temp. 14,1



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Mértékcső sűrűsége levegőben Chimolinn

Törzs

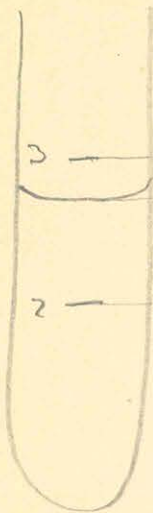
5,2

4,6 5,2

4,6 5,2

4,6 5,2

$Egyesület = \frac{9,8}{2} = 4,90$



61,21 61,21

53,40 53,41

41,29 41,28

Szifal

Mértékcső 39,190 gr.

4,5 6,3

4,5 6,3

4,6

4,57 6,30

$Egyesület = \frac{10,87}{2} = 5,44$

Mértékcső 39,195 gr.

3,7 4,6

3,7 4,6

3,7 4,6

3,7 4,6

$Egyesület = \frac{8,30}{2} = 4,15$

hőmérséklet 14,0

levegő 10 cm³ alkohol

Mértékcső + 10 cm³ alkohol

Törzs

4,0 6,7

4,3 6,7

4,3

4,0 6,7

$Egyesület = 5,50$

Szifal

Mértékcső 47,315 gr.

4,6 6,5

4,6 6,5

4,6 6,4

4,60 6,47

$Egyesület = \frac{11,07}{2} = 5,54$

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Mértékcső + levegő súlya = 39,192

Mértékcső + 10 cm³ alkohol = 47,315

10 cm³ alkohol - levegő = 8,123

levegő = 0,013

10 cm³ alkohol = 8,136 gr.

5	-	73,01	73,01
4	-	56,17	56,19
3	-	33,01	33,01
	-	33,02	33,02

15 cm³ alkohol

lemp. 14,0

Wogesi + 15 cm³ alkohol

Luffal

Terival

Merlyn 51,380

Merlyn 51,385

3,3 5,5

4,6 5,8

3,4 4,6

3,3 5,5

4,6 5,8

3,4 4,6

3,4

4,6 5,8

3,4

3,33 5,50

4,6 5,8

3,4 4,6

$$\text{Expung} = \frac{8,83}{2} = 4,42$$

$$\text{Expung} = \frac{10,40}{2} = 5,20$$

$$\text{Expung} = \frac{8,00}{2} = 4,00$$

Wogesi + chinolin

Luffal

Terival

Merlyn 52,445 gr.

4,3 5,6

4,3 5,4

4,3 5,5

4,3 5,2

4,3

4,4

4,3 5,55

4,33 5,35

$$\text{Expung} = \frac{9,85}{2} = 4,93$$

$$\text{Expung} = \frac{9,68}{2} = 4,84$$

$$\text{Wogesi} + 15 \text{ cm}^3 \text{ alkohol} = 51,383$$

$$\text{Wogesi} + \text{lempa} = 39,192$$

$$\text{15 cm}^3 \text{ alkohol} - \text{lempa} = 12,191$$

$$\text{lempa} = 19$$

$$\text{15 cm}^3 \text{ alkohol} = 12,210$$

$$\text{10 cm}^3 \text{ " } = 8,136$$

$$\text{5 cm}^3 \text{ " } = 4,074$$

$$\text{Wogesi} + \text{chinolin} = 52,445$$

$$\text{Wogesi} + \text{lempa} = 39,192$$

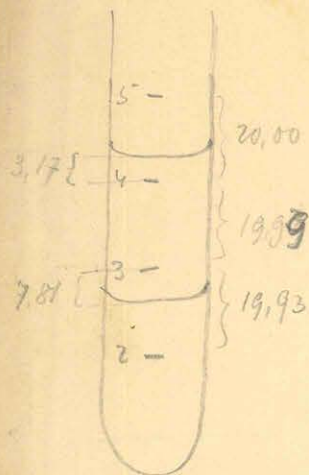
$$\text{Chinolin} - \text{lempa} = 13,253$$

$$\text{lempa} = 0,015$$

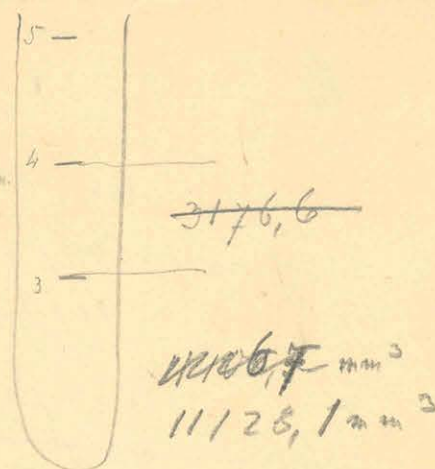
$$\text{Chinolin} = 13,268$$

Ar alkohol sirirasege = 0,8155 lemp. 15,5

Chinolin 13,268 gr.



$$\frac{161,28}{1 \text{ mm}} = \frac{158,91}{(2,20758)}$$



$$r = 7,10 \text{ mm}$$

Di alkohol maniscus terpyat u

$$u = a^2 \pi - r^2 \pi h$$

$$14,0^\circ \text{-mal } a^2 = 5,794 \quad \frac{r}{a} = 2,950 \quad \frac{h}{a} = 0,0552 \quad h = 0,1329$$

$$u = 129,24 - 21,04$$

$$u = \underline{\underline{108,20}}$$

Temp 14,7

$$\text{Maniscus terpyat } u = a^2 \pi - r^2 \pi h \quad a^2 = 8,491$$

$$\frac{r}{a} = 2,437 \quad \frac{h}{a} = 0,1088 \quad h = 0,3173$$

$$u = 189,40 - 50,21 = 139,2 \text{ mm}.$$

$$\begin{aligned} \text{Fofadex terpyat} &= (03) + 5,18 \times \frac{161,28}{158,91} + \text{maniscus} \\ &= \frac{11128,1}{11106,7} + \frac{518 \times 161,28}{158,91} + 139,2 + 835,4 \end{aligned}$$

$$V = \underline{12102,7} \quad V = \text{~~12069,1~~ } = \text{~~12069,1~~ }$$

Temp 86,7

$$\frac{r}{a} = 2,643 \quad \frac{h}{a} = 0,0829 \quad h = 0,2227$$

$$u = 100,92 - 35,26 = 125,7$$

$$\begin{aligned} \text{Fofadex terpyat } V &= (03) + 8,57 \times \frac{161,28}{158,91} + \text{maniscus} \\ &= 11128,1 + 1377,3 + 125,7 \end{aligned}$$

$$V = \underline{\underline{12631,1}}$$

Temp. 150,0

$$\frac{r}{a} = 2,822 \quad \frac{h}{a} = 0,0654 \quad h = 0,1645$$

$$u = 141,20 - 26,06 = 115,1$$

$$\text{Fogadás} = (03) + 12,48 \times 101,28 + \text{mennyiség}$$
$$11128,1 + 2012,8 + 115,1$$

$$V = 13256,0$$

Temp. 246,3

$$\frac{r}{a} = 3,324 \quad \frac{h}{a} = 0,0336 \quad h = 0,0735$$

$$u = 106,59 - 11,63 = 95,0$$

$$\text{Fogadás} = (04) + 0,13 \times 101,28 + \text{mennyiség}$$
$$= 14352,1 + 21,0 + 95,0 =$$

$$V = 14468,1$$

$$x = BC \cdot \sin \varphi; \quad \frac{BC}{R} = \frac{\sin \delta}{\sin(\delta - \varphi)}$$

$$A = \frac{x}{r} \frac{1}{\sin \alpha} \frac{\sin[2\alpha - 2(\beta - \gamma) - \varphi + \delta]}{\sin \delta}$$

$$n = \frac{x}{r} \frac{1}{\sin \alpha} \frac{\sin(\delta + 2(\beta - \gamma) + \varphi - 2\alpha)}{\sin \varphi} \quad \sin \alpha = \frac{A}{n}$$

$$A = \frac{x}{r} \frac{\sin(\eta - 2\alpha)}{\sin \varphi} \quad A = \frac{\sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta} + n_{23} \sin \delta \cos(\beta - \gamma)}{n_{23}}$$

$$\eta = \delta + 2(\beta - \gamma) + \varphi \quad \lg \delta = \frac{a}{c}$$

$$\lg \varphi = \frac{a}{l + R}$$

Chindiri

$$\frac{x}{r} = 0,33486-1$$

$$\frac{\sin \varphi}{\sin \alpha} = 0,15125-1$$

$$\frac{1}{0,18361-1}$$

$$\beta - \gamma = 1,149$$

$$= 1,738$$

$$a = 1,87506$$

$$l + R = 2,71941$$

$$\frac{1}{0,15565-1}$$

$$\varphi = 8,144$$

$$a = 1,87506$$

$$l = 2,71223$$

$$\frac{1}{0,16283-1}$$

$$\delta = 8,278$$

$$\sin \delta = 0,15829-1$$

$$\sin^2 \delta = 0,31658-2$$

$$n_{23}^2 = 0,37096$$

$$\frac{1}{0,94562-3}$$

$$\sin \delta = 0,15829-1$$

$$\cos(\beta - \gamma) = 0,99986-1$$

$$\frac{1}{0,15815-1}$$

$$n_{23} = 0,18548$$

$$\frac{1}{0,97267-2}$$

$$19,298 - 2\alpha = 753,692$$

$$-2\alpha = 34,394$$

$$\alpha = 17,197$$

$$0,00882$$

$$0,99118 = 0,99696-1$$

$$\sqrt{V} = 4,99808-1$$

$$\sin(\beta - \gamma) = 0,39970-2$$

$$\frac{1}{0,39793-2}$$

$$\delta = 8,278$$

$$\eta = 2,876$$

$$8,144$$

$$\frac{1}{19,298}$$

$$A = 0,88$$

$$= 0,18361-1$$

$$0,02504$$

$$0,09390$$

$$\frac{1}{0,11894} = 0,07533-1$$

$$n_{23} = 0,18548$$

$$A = 0,26081-1$$

$$\frac{1}{18361}$$

$$0,07720-1$$

$$[0,88985-2] = [0,18361-1]$$

$$\frac{1}{18361-1}$$

$$0,70624-2$$

$$19,298 - 2\alpha = 2,915$$

$$2\alpha = 16,383$$

$$\alpha = 8,192$$

$$A = 0,26087$$

$$\frac{1}{0,03474}$$

$$\frac{1}{0,22607}$$

$$1,683$$

$$19,298 - 2\alpha = 6,861$$

$$2\alpha = 12,437$$

$$\alpha = 6,219$$

$$0,79696-1$$

$$\sin \delta = 0,31658-2$$

$$\frac{1}{0,11354-2}$$

$$\beta - \gamma = 1,154$$

$$0,99831-1$$

$$\frac{1}{30411-2}$$

$$0,30219-2$$

$$0,020$$

$$0,02005$$

$$\frac{1}{9391}$$

$$0,15829-1$$

$$\frac{1}{99991-1}$$

$$0,15820-1$$

$$\frac{1}{18548}$$

$$0,97272$$

$$0,01299$$

$$1,47204$$

$$\frac{1}{1,45905} = 0,16408$$

$$\sqrt{V} = 0,08204$$

$$V = 1,20792$$

$$\frac{1}{99348}$$

$$8,144$$

$$8,278$$

$$1,154$$

$$1,154$$

$$\frac{1}{18,730}$$

$$0,21444 = 0,33130-1$$

$$\sin \delta = 0,15829-1$$

$$\frac{1}{0,48959-2}$$

$$n_{23} = 0,18548$$

$$\frac{1}{0,30491-2}$$

$$A = 0,24222-1$$

$$\frac{1}{18361}$$

$$0,05860-1$$

$$0,24227-1$$

$$\frac{1}{2490}$$

$$0,21737$$

$$n = 1,650$$

$$6,572$$

$$6,572$$

$$\frac{1}{18,730}$$

$$\frac{1}{12,158}$$

$$\alpha = 6,079$$

$$\sin \beta = n \cdot n_{23} \sin \alpha \quad \cos \beta =$$

$$\cos \gamma = \sqrt{1 - n^2 n_{23}^2 \sin^2 \alpha}$$

$$\sin \beta = n \cdot n_{23} \sin \alpha \quad \cos \beta = \sqrt{1 - n^2 n_{23}^2 \sin^2 \alpha}$$

$$\cos \gamma = \sqrt{1 - n_{23}^2 \sin^2 \delta} \quad \sin \gamma = n_{23} \sin \delta$$

$$\sin(\beta - \gamma) = n \cdot n_{23} \sin \alpha \sqrt{1 - n_{23}^2 \sin^2 \delta} - n_{23} \sin \delta \sqrt{1 - n^2 n_{23}^2 \sin^2 \alpha}$$

$$(\sin(\beta - \gamma) - n \cdot n_{23} \sin \alpha \sqrt{1 - n_{23}^2 \sin^2 \delta})^2 = n_{23}^2 \sin^2 \delta - n^2 n_{23}^4 \sin^2 \alpha \sin^2 \delta$$

$$\sin^2(\beta - \gamma) + \frac{n^2 n_{23}^2 \sin^2 \alpha - n^2 n_{23}^4 \sin^2 \alpha \sin^2 \delta}{- 2n \cdot n_{23} \sin \alpha \cdot \sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta}} = n_{23}^2 \sin^2 \delta - n^2 n_{23}^4 \sin^2 \alpha \sin^2 \delta$$

$$n^2 n_{23}^2 \sin^2 \alpha - 2n \cdot n_{23} \sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta} \cdot \sin \alpha + \sin^2(\beta - \gamma) - n_{23}^2 \sin^2 \delta = 0$$

$$\sin \alpha = \frac{\cancel{n \cdot n_{23} \sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta}} + \sqrt{\cancel{n^2 n_{23}^2 \sin^2(\beta - \gamma) (1 - n_{23}^2 \sin^2 \delta)} - \cancel{n^2 n_{23}^2 (\sin(\beta - \gamma) - n_{23}^2 \sin^2 \delta)}}}{\cancel{n^2 n_{23}^2}}$$

$$n^2 n_{23}^2 \left[\cancel{\sin(\beta - \gamma)} - n_{23} \sin(\beta - \gamma) \sin^2 \delta - \sin^2(\beta - \gamma) + n_{23}^2 \sin^2 \delta \right]$$

$$\cancel{n^2 n_{23}^2} \cdot n_{23}^2 \sin^2 \delta \cdot \sqrt{1 - \sin^2(\beta - \gamma)}$$

$$n^2 n_{23}^4 \sin^2 \delta \cdot \cos^2(\beta - \gamma)$$

$$\sin \alpha = \frac{\cancel{n \cdot n_{23} \sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta}} + \cancel{n \cdot n_{23}^2 \sin \delta \cos(\beta - \gamma)}}{n \cdot \cancel{n_{23}^2}}$$

$$\sin \alpha = \frac{\sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta} + \sin \delta \cos(\beta - \gamma)}{n \cdot n_{23}}$$

$$2(\beta - \gamma) + \varphi = \eta$$

$$\sin \alpha = \frac{\sin(\beta - \gamma) \sqrt{1 - n_{23}^2 \sin^2 \delta} + n_{23} \sin \delta \cos(\beta - \gamma)}{n \cdot n_{23}} = \frac{A}{n}$$

$$\frac{A}{n_{23}} = \frac{x}{r} \frac{\sin 2\alpha \cos \eta - \cos 2\alpha \sin \eta}{\sin \varphi} = \frac{x}{r} \frac{2 \sin \alpha \cos \alpha \cos \eta - (\cos^2 \alpha - \sin^2 \alpha) \sin \eta}{\sin \varphi}$$

$$\cos \alpha \sin \alpha = \frac{n^2 n_{23}^2 \sin^2(\beta - \gamma) (1 - n_{23}^2 \sin^2 \delta) \mp \sin^2 \delta (\cos^2(\beta - \gamma) \mp 2 \sin(\beta - \gamma) \cos(\beta - \gamma) \sin \delta \sqrt{1 - n_{23}^2 \sin^2 \delta})}{n^2 n_{23}^2}$$

$$n^2 n_{23}^2 - \sin^2(\beta - \gamma) + n_{23}^2 \sin^2(\beta - \gamma) \sin^2 \delta - \sin^2 \delta + \sin^2 \delta \sin^2(\beta - \gamma) \mp 2 \sin(\beta - \gamma) \cos(\beta - \gamma) \sin \delta \sqrt{1 - n_{23}^2 \sin^2 \delta}$$

$$= n^2 n_{23}^2 - \sin^2 \beta \cos^2 \delta + n_{23}^2 \sin^2(\beta - \gamma) \sin^2 \delta \mp \dots$$

$$= n_{23}^2 n_{23}^2 - \sin^2 \beta (\cos^2 \delta - n_{23}^2 \sin^2 \delta) \mp 2 \sin(\beta - \gamma) \cos(\beta - \gamma) \sin \delta \sqrt{1 - n_{23}^2 \sin^2 \delta}$$

$$= n_{23}^2 n^2 - \sin^2 \beta (2 n_{23}^2 \sin \delta (1 - \sin^2 \delta (n_{23}^2 - 1))) \mp 2 \sin(\beta - \gamma) \cos(\beta - \gamma) \sin \delta \sqrt{1 - n_{23}^2 \sin^2 \delta}$$

$$N^2 = \frac{-\sin^2 \varphi + 4 \frac{x^2}{r^2} + \sqrt{\sin^4 \varphi - 8 \frac{x^2}{r} \sin^2 \varphi + 16 \frac{x^4}{r^2} \sin^2 \eta}}{8 \frac{x^2}{r^2}}$$

$$\sin \varphi = \frac{a \sqrt{(l+R)^2 - a^2}}{(l+R)^2} \quad A$$

$$\eta = 2(\beta - \gamma) + \varphi$$

$$A = \frac{x}{r} \frac{\sin(2\alpha - \eta)}{\sin \varphi} \quad \lg \delta = \frac{a}{l}$$

$$A = \frac{x}{r} \frac{2 \frac{A}{n} \sqrt{1 - A^2/n^2} \cos \eta - (1 - 2 \frac{A^2}{n^2}) \sin \eta}{\sin \varphi}$$

$$= \frac{x}{r} \frac{2A \sqrt{n^2 - A^2} \cos \eta - (n^2 - 2A^2) \sin \eta}{n^2 \sin \varphi}$$

$\frac{A}{n^2} \sin \eta$

$$n^2 A \sin \varphi \cdot \frac{r}{x} + (n^2 - 2A^2) \sin \eta = 2A \sqrt{n^2 - A^2}$$

n^2

Christen förmått

Junij 7. 1892.

$$a = 75,0$$

$$c = 515,5$$

$$R = 8,59$$

$$l+R = 524,1$$

$$2r = 14,16$$

$$\frac{45}{525}$$

$$\frac{375}{5625}$$

$$l(l+R) = 2,71941$$

$$l^2 = 5,43882$$

$$l^3 = 274675$$

$$a^2 = 5625$$

$$l(l+R) = 2,71941$$

$$lR = 93399$$

$$\frac{365340}{2,90598}$$

$$1x = 2,70330$$

$$1R = 2,95240$$

$$1m = 0,25090 - 1$$

$$1440 = 2,64738$$

$$\frac{4,00352 - 5}{0,83854 - 4}$$

$$280300 = 5,44762$$

$$r = 2,72381$$

$$pa = 1,87506$$

$$1a\sqrt{r} = 4,59887$$

$$a\sqrt{r} = 39707$$

$$1m = 0,25258 - 1$$

$$\frac{39707}{805}$$

$$140512 = 4,60758$$

$$\frac{5,44762}{0,15996 - 1}$$

$$E = 8,310$$

$$\frac{040}{8,350}$$

$$E - D = 0,040$$

$$D = 10,265$$

$$E = 10,305$$

$$D - Y = 1,429$$

$$\frac{11,454}{4,175}$$

$$\frac{7,279}{7,279}$$

$$1\left(\frac{R}{r}\right) = 0,79696 - 1$$

$$1m^2 = 0,50516 - 2$$

$$0,30212 - 2$$

$$1\frac{x}{r} = 0,25090$$

$$\frac{18396}{0,33486}$$

$$\frac{10278}{0,23208}$$

n = 1,700

1,641

$$0,02005 \quad 10,97995 = 0,99121 - 1$$

$$1,47204 \quad 1V = 0,99560$$

$$B - Y = 1,438$$

$$\frac{10,305}{11,743}$$

$$\frac{4,175}{7,568}$$

$$\frac{0,33486}{11960}$$

$$0,21526$$

$$1,45199 = 0,16197$$

$$1V = 0,08099$$

$$V = 1,20500$$

$$r = 0,98992$$

$$0,21508 = 0,33260 - 2$$

$$1m = 0,25258 - 1$$

$$\frac{0,58518 - 2}{18548}$$

$$1m(p\gamma) = 0,39970 - 2$$

39,3	)	50,7
30,0	)	51,2
21,2	)	51,6
12,8	)	51,6
<hr/>		
3,8	)	51,0
55,0	)	51,2
46,1	)	51,1
37,3	)	51,2
28,4	)	51,1
19,5	)	51,1
10,7	)	51,2
1,8)	51,1
<hr/>		
52,9)	51,1
44,0)	51,1
35,2)	51,2
26,3)	51,1
17,4)	51,1
8,6)	51,2
0,8)	51,2
50,2)	51,4
<hr/>		
42,0)	51,8
33,4)	51,4

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Törésmutató

$$\frac{3 \times 6725}{1700} = \frac{20325}{1700} = 1,2$$

$$2R = 17,18 \quad 2r = 14,16$$

$$R = 8,59 \quad r = 7,08$$

kümp 14,7

$$2R = 676,3$$

$$l = 435,5 \text{ mm.}$$

$$a = 75,00 \text{ mm.}$$

$$l = 435,5 \quad \rho(l+R) = 2,64747$$

$$R = 8,59 \quad \rho(l+R)^2 = 5,29494$$

$$(l+R) = 444,09 \quad \rho(l+R)^3 = 197201$$

$$a^2 = 5625$$

$$aV = 33777$$

$$\rho a^2(l+R) = 5,29494$$

$$\rho m_0 = 0,18548$$

$$\rho m_1 = 0,37096$$

$$\rho \frac{R}{r} = 0,08396$$

$$\rho 2R = 1,23502$$

$$\rho 2r = 1,15106$$

$$\frac{0,08396}{0,08396}$$

$$\rho 202826 = 5,30712$$

$$\rho V = 2,65356$$

$$\rho a = 1,87506$$

$$\rho aV = 4,52862$$

$$x = 137,2$$

$$\rho R = 676,3$$

$$\rho \frac{R}{r} = 0,08396$$

$$\frac{673,3 \times 24}{13466} = \frac{26432}{16159,2:1993} = 8,1$$

$$\frac{15944}{2150}$$

$$\rho x = 13735$$

$$\rho R = 83014$$

$$\rho sm_0 = 30721-1$$

$$\frac{3,73400}{0,57321-5}$$

$$1148 = 1,23502$$

$$\frac{0,80823-4}{0,80823-4}$$

$$\rho(l+R) = 2,64747$$

$$\rho R = 0,43399$$

$$\rho R(l+R) = 3,58146$$

$$\rho sm_2 = 0,30854-1$$

$$\frac{2,89000}{2,89000}$$

$$\rho \left(\frac{R}{r}\right)^2 = 0,16792$$

$$\rho m_2 = 0,37096$$

$$\rho sm_2 = 0,79696-1$$

$$\rho sm_2 = 0,61708-2$$

$$\frac{0,41404-2}{0,41404-2}$$

$$10,891$$

$$\frac{36}{10,127}$$

$$\frac{33777}{776}$$

$$\rho 34553 = 2,53849$$

$$\frac{5,29494}{0,24355-1}$$

$$\rho 0,02594$$

$$\rho 0,97406 = 0,98858-1$$

$$\rho V = 0,99429$$

$$\rho \left(\frac{R}{r}\right) = 1,47204$$

$$\rho 1,44610 = 0,16020$$

$$\rho V = 0,08010$$

$$\rho V = 1,20254$$

$$\rho V = 0,98694$$

$$\beta - \gamma = 1,640$$

$$z = 11,741$$

$$\frac{13,381}{5,064}$$

$$\frac{8,317}{8,317}$$

$$\rho \frac{x}{R} = 30721-1$$

$$\frac{0,8396}{39117-1}$$

$$\rho sm_0 = 16031-1$$

$$\frac{23086}{23086}$$

$$\frac{19,93}{20,17}$$

$$\frac{24}{1993}$$

$$\frac{0,24}{0,24}$$

$$\rho 0,21560 = 0,33365-1$$

$$\rho sm_2 = 0,30854-1$$

$$\frac{0,64219-2}{0,64219-2}$$

$$\rho m_2 = 0,18548$$

$$\frac{0,45671-2}{0,45671-2}$$

kümp 246,3

$$x = 157,6$$

$$R = 684,4$$

$$\rho sm_2 = 0,36995$$

$$\frac{2,95141}{2,95141}$$

$$\rho sm_2 = 79696-1$$

$$\frac{73990-2}{53686-2}$$

$$\rho x = 19756$$

$$\frac{82892}{36864-1}$$

$$\frac{3,73400}{0,63464-5}$$

$$\frac{1,23502}{0,86966-4}$$

$$33777$$

$$\frac{894}{34678} = 4,53996$$

$$11,125$$

$$\frac{42}{0,24502-1}$$

$$\frac{5,29494}{0,24502-1}$$

$$\frac{70,167}{70,167}$$

$$0,03442$$

$$\rho 0,96558 = 0,98479-1$$

$$\rho V = 0,99240$$

$$\frac{1,47204}{1,43762} = 0,15765$$

$$\rho V = 0,07883$$

$$\rho V = 1,19901$$

$$\rho V = 0,98265$$

$$\beta - \gamma = 1,898$$

$$z = 13,556$$

$$\frac{15,454}{5,084}$$

$$\frac{10,370}{10,370}$$

$$\rho \frac{x}{R} = 0,36864-1$$

$$\rho R = 0,08396$$

$$\rho \frac{x}{R} = 0,45260-1$$

$$\frac{25528}{0,19732}$$

$$\rho 0,21636 = 33518-1$$

$$\rho sm_2 = 36995$$

$$\frac{70513}{18548}$$

$$\frac{4,51965-2}{4,51965-2}$$

$$\rho x = 19756$$

$$\rho R = 83531$$

$$\frac{36225}{73400}$$

$$\frac{62825-5}{1,23502}$$

$$\frac{86327-4}{86327-4}$$

$$\rho sm_2 = 0,36358$$

$$\frac{2,94504}{2,94504}$$

$$33777$$

$$\frac{881}{34658} = 4,53980$$

$$5,29494$$

$$\frac{0,24486-1}{0,24486-1}$$

$$\rho sm_2 = 79696$$

$$\frac{72716}{52412}$$

$$0,03343$$

$$\rho 0,96657 = 0,98524$$

$$\rho V = 0,99262$$

$$\frac{1,47204}{1,43861} = 0,15794$$

$$\rho V = 0,07997$$

$$\rho V = 1,20219$$

$$\frac{19,93}{20,00}$$

$$\frac{0,07}{0,07}$$

$$10,12,1$$

$$\frac{42}{10,163}$$

$$\frac{10,163}{10,163}$$

$$\beta - \gamma = 1,891$$

$$z = 13,355$$

$$\frac{15,246}{25,082}$$

$$\frac{10,164}{10,164}$$

$$\rho \frac{x}{R} = 36225$$

$$\frac{73000}{0,8396}$$

$$\frac{44621}{24663}$$

$$\frac{0,19958}{0,19958}$$

$$\rho 0,21904 = 34052$$

$$\rho sm_2 = 36358$$

$$\frac{70410}{18548}$$

$$\frac{51862}{51862}$$

$$\frac{7}{1993} \times 676,3$$

$$\frac{47341:1993}{3986}$$

$$\frac{7480}{7480}$$

$$4995,81 - 30,97 = 161,28$$

$\frac{18986}{18582}$
 $\frac{3980}{3097}$
 $\frac{8830}{6194}$
26366

$$2,20758$$

$$2,20758$$

$$5,18 = 71433$$

$$5,61,28 = 20758$$

$$\frac{92191}{835,7}$$

$$13268 : 12081 = 1,0983$$

$\frac{118700}{108729}$
 $\frac{99710}{96648}$
50626

$$158,91$$

$$2,20758$$

$$\frac{89265}{3,10023}$$

$\frac{1259,6}{9976,7}$
~~11235,1~~
 $\frac{11236,3}{1082}$
11128,1

$$13268 : 12103 = 1,0963$$

$\frac{116560}{108927}$
 $\frac{75730}{72618}$
31120

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$$80,72 : 0,226 = 357$$

$$\frac{6788}{1290}$$

$$\frac{1130}{1600}$$

$$\frac{1582}{180}$$

Chromolaena torreyana

1893. Jan. 7.

ling 19,3

18,0) 159,7
57,7

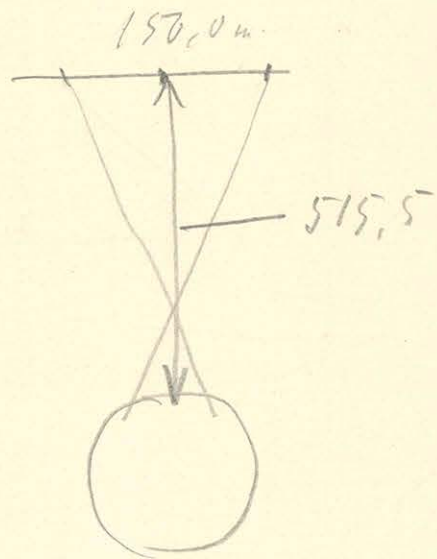
57,7) 159,7
18,0

18,0) 159,9
57,9

17,7) 159,7
18,0

ling 19,9

x = 159,7



R. esterica

ling 19,8) 896,5
16,3

m 16,8) 896,0
20,8

40,8) 895,7
26,5

17,5) 896,5
21,0

R = 896,2

Ms 5105/20-22. Eotvos L. irakelti jegreber
Töolsmentals

3 kódf. bor.
KÖNYV
7 17

Ms 105/21

Párisi írók társaságának emlékirata.

Társaságunk kongresszus-

csövekkéi

1882. évi

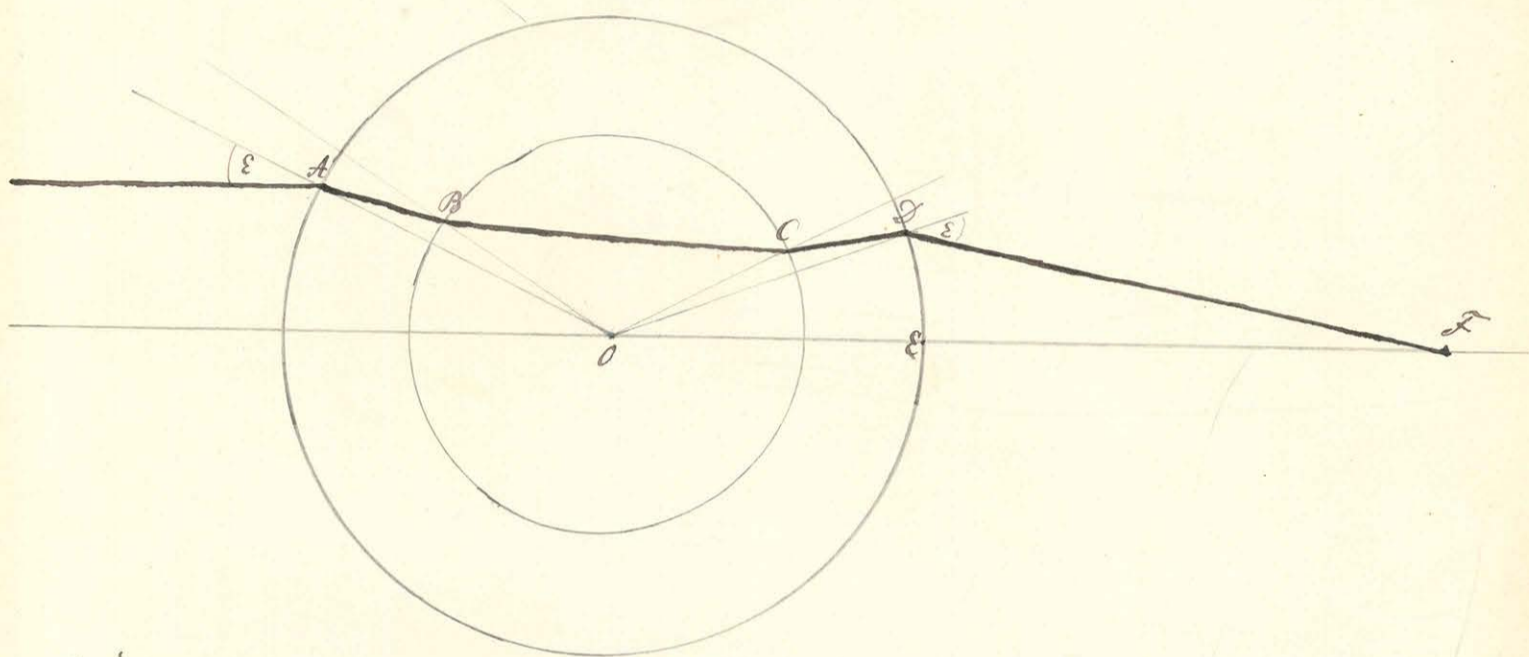
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Szénas.

Összeállítás a vonathoz ismeretlen 1885 Oct. 19

Törés mutató meghatározása a rézben gyújtó pont távollétén.

Theoria



Az ábrán a belsejé körésközépté OA sugárú kör sugara $= r$
 OB sugárú belső sugara $= r+l$

Részamítandó $EF = d$, ez azután a törésmutató.

Törésmutató n körülbelül n , törésmutató n körülbelül n

- Legyen a sugárú körésközépté OA sugárú körésközépté A -nél $= \varepsilon$
 akkor a törésszög α körülbelül A -nél $= \frac{\varepsilon}{n}$
 " " a belső sugárú körésközépté B -nél $= \frac{\varepsilon}{n} (1 + \frac{l}{r})$
 " " a törésszög α körülbelül B -nél $= \frac{\varepsilon}{nV} (1 + \frac{l}{r})$

A sugárú körésközépté C és D -nél α körülbelül α , α körülbelül α , α körülbelül α
 tehát α körülbelül α körülbelül α körülbelül α

Az ábrán $EF \times (\angle E F) = \varepsilon d$ vagyis $d \cdot (\varepsilon - \angle O E) = (r+l) \angle O E$

$\angle B O C = \pi - 2 \frac{\varepsilon}{nV} (1 + \frac{l}{r})$

$\angle A O D = \pi - 2 \frac{\varepsilon}{nV} (1 + \frac{l}{r}) + 2 \frac{\varepsilon}{n} \frac{l}{r}$

$\angle O E = \pi - \varepsilon - \angle A O D = 2 \frac{\varepsilon}{nV} (1 + \frac{l}{r}) - 2 \frac{\varepsilon}{n} \frac{l}{r} - \varepsilon$

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Vizsgáljuk a töve, mutatóra vonatkozólag.

19° Celsiusnál $\rho = 2,5$ $\rho + 1 = 3,7$ $l = 1,2$

Δ két értéke $= 28,5$

Ugyanakkor egyik em. volt nagyobb mint 29 hirtelen 228

e szerint I)

$$m_{19} = 1,172$$

3°5'-re egy értéke ugyan a két másik értéke 1,5°-re aratva a kétségbe
melyeknél valamelyikük $\lambda = 20$ tehát

$$m_{3,5} = 1,192$$

(Csendülési hossz $\propto \frac{n-1}{d} = \text{constans}$ jellel ugyan m_{19} és $1,192$ is ad ha
 $m_{19} = 1,172$ -ből $\frac{1,192}{1,172}$) Ez az adat még újabb megfigyelés.

Görjeszky J. Andrews Beiblätter I 1877.

0	—	35,04	Atm.	. Vákuumnál kezdés
5,45	—	40,44		
11,45	—	47,04		mint Regnault adta.
16,92	—	53,77		
22,22	—	61,13		
28,29	—	68,78		
28,30	—	79,39		

Lásd még Andrieff Ann. de Chim. et Pharmacie. 110^{to} 1859

$$S = 0,9471 - 0,004804t - 0,00002095t^2 - 0,000001941t^3$$

$$0^\circ - 0,9471$$

$$5^\circ - 0,9222$$

$$10^\circ - 0,8948$$

$$15^\circ - 0,8635$$

$$20^\circ - 0,8267.$$

gőzsűrűség 1,5252 . Δ kétszeres értéke $= 0,00369$

Felületi feszültség - felharmillék
 Eszék 1885 Aug. 10 évi.

10 évfolyamig 3^o2' leírásnál $\xi = \frac{185,12}{200} = 0,9256$ $\frac{\xi}{u} = 0,370$
 10 évfolyamig 28^o3' leírásnál $\xi = \frac{105,3}{200} = 0,526$ $\frac{\xi}{u} = 0,211$

hogy az évfolyamig 20^o mit $a = 3,820$
 $\frac{\xi}{u}$
 $\frac{a}{\xi}$
 $u = 10,2$ $u = 9,4$ — $\xi = 3,49$ $0,271$ — $1,094$
 $16,4$ — $\xi = 3,515$ $0,214$ — $1,087$

e szűk prima korrekció nélkül

* * 3^o2' leírás $a = \frac{a'}{\xi}$ $\xi = 1,013$ $a^2 = 1,026$
 * * 28^o3' leírás $a = \frac{a'}{\xi}$ $\xi = 0,572$ $a^2 = 0,327$

Örözi évfolyam minimális megadásul adta $a_{2,2}^2 = 1,026$

Aug 4-iki évfolyam adtak prima korrekció nélkül $a_{10,5}^2 = 0,781$, $a_{17,9}^2 = 0,582$
 $a_{18,8}^2 = 0,471$

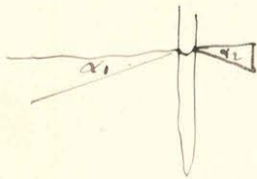
a * * évfolyamig hőmérséklet $\frac{da^2}{dt} = 0,0062$ értékét azonosíték évfolyamig ábrakészítéssel

az Aug 4-iki évfolyamig

Temperatura	** ábrák simultánok	Aug 4-iki évfolyam
3,2	1,026	
10,5	0,781	0,781
17,9	0,577	0,582
18,8	0,472	0,471
28,3	0,327	0,472

$\frac{a^2}{19} = 0,460$
 $\frac{a^2}{19} = 0,466$

Az évfolyamig $a = \frac{a'}{\xi}$ $\frac{1}{1 + \frac{1}{2} \frac{\cos^2 \delta_1 \Delta d_1 - \cos^2 \delta_2 \Delta d_2}{\sin \delta_1^2 - \sin \delta_2^2}}$



vagy egy esetben lehet $\delta_1 = 16^\circ = 960'$ $\delta_2 = 24^\circ = 1440'$ lehet
 $\delta_1 = 6^\circ$ $\delta_2 = 81^\circ$ érték.

$a = \frac{a'}{\xi}$ $\frac{1}{1 + 0,0002 \Delta d_2 - 0,00024 \Delta d_1}$ a hat $\Delta d_1 = \frac{d_1 \cdot n - n^2}{2}$ $\Delta d_2 = \frac{d_2 \cdot n - n^2}{2}$

az $\frac{1}{1 + 0,0002 \Delta d_2 - 0,00024 \Delta d_1}$ értéke $3^\circ 5'$ re $\frac{1}{0,948}$ 19° re $\frac{1}{0,955}$ érték megadás.

az ábrák $a_{3,5}^2 = 1,142$ $a_{19}^2 = 0,511$ $\mu = 43,89$

t	a ²	s	σ	λ	$\frac{k}{s}$	λ	λ ²	λ ²
3,2	1,142	0,930	0,079	0,486	47,4	3,612	13,05	6,342
19	0,511	0,834	0,108	0,186	52,6	3,747	14,03	2,608
31	0	0	0	0	0	0	0	0

0,236 }
 0,228 }
 0,217 }

t	$\frac{u}{p}$	t ₁	$\frac{p^2}{10000}$	l ₁	$1000000 \frac{l}{\mu}$	l ₂	$10000 \frac{p^2}{T}$	t ₁	p
3	4963	153	2008 10 ⁶	149	4,655	150	229,8	148	38,760 = 28830

$\begin{array}{r} 100 \\ 1,2385606 \\ 0,5003188 -1 \\ \hline \ln 0,7388794 \\ \hline 5,4812 \\ \hline \end{array}$	$\begin{array}{r} 96 \\ 1,2296962 \\ 0,5060854 -1 \\ \hline \ln 0,7357816 \\ \hline 5,4423 \end{array}$	$\begin{array}{r} 85 \\ 1,2032701 \\ 0,5231740 -1 \\ \hline 0,7264441 \\ \hline 5,2265 \end{array}$	$\begin{array}{r} 75 \\ 1,1760912 \\ 0,5405172 -1 \\ \hline 0,7166084 \\ \hline 5,2072 \end{array}$	$\begin{array}{r} 65 \\ 1,1450173 \\ 0,5600950 -1 \\ \hline 0,7051153 \\ \hline 5,0713 \end{array}$	$\begin{array}{r} 56 \\ 1,1126546 \\ 0,5801492 -1 \\ \hline 0,6928038 \\ \hline 4,9295 \end{array}$	$\begin{array}{r} 48 \\ 1,0791812 \\ 0,6005591 -1 \\ \hline 0,6797403 \\ \hline 4,7835 \end{array}$
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$\begin{array}{r} 40 \\ 0,92093 \\ 1,0395906 \\ 0,6210412 -1 \\ \hline 0,6606318 \\ \hline 4,5776 \\ \hline 0,2927171 \\ \hline 2560304 \\ \hline 3- \\ \ln 0,3890756 \end{array}$	$\begin{array}{r} 30 \\ 0,9978176 \\ 0,6485747 -1 \\ \hline 0,6463923 \\ \hline 4,4299 \end{array}$	$\begin{array}{r} 27 \\ 0,9542425 \\ 0,6702974 -1 \\ \hline 0,6275399 \\ \hline 4,2417 \end{array}$	$\begin{array}{r} 21 \\ 0,8996702 \\ 0,7001968 \\ \hline 0,6028670 \\ \hline 4,0074 \end{array}$
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 KONVULSARIA

$$\begin{aligned} \log 0,28634 &= 0,4568820 -1 \\ \log a\bar{a} &= \frac{0,5836134}{0,5836134} \end{aligned}$$

$$\begin{aligned} \log 0,28634 a\bar{a} &= 0,0404954 \\ \log 0,28634 a\bar{a} &= 1,09773 \end{aligned}$$

$$\begin{aligned} \log \frac{\sqrt{u}}{a} &= \frac{0,1505150}{0,3890756} \\ &= \frac{0,3890756}{0,7614394 -1} \\ \frac{\sqrt{u}}{a} &= 0,57705 \end{aligned}$$

$$b' = \frac{1,09773}{\sqrt{u+1,01458}} e^{0,58577 + 0,57705 u}$$

$$\begin{aligned} \log b' &= \log 1,09773 + (0,58577 + 0,57705 u) \log e \\ &\quad - \frac{1}{2} \log u + 1,01458 \end{aligned}$$

$$\begin{aligned} \ln 0,3890756 \\ 0,1945378 \\ \hline 174 \\ \hline 1945078 \\ \hline 0,6722101 -1 \\ 2505150 \\ \hline 9767251 -1 \\ \hline \sqrt{u}(\sqrt{u}-1) = 0,58577 \end{aligned}$$

$$\begin{aligned} 0,414296172101 -1 & \quad 1,01458 \\ 3890756 \\ \hline 0,0062857 & \quad a(\sqrt{u}-1) = 1,01458 \end{aligned}$$

~~a = 2,4438~~ a = 2,4495

$$Z = \frac{\xi}{\sqrt{1+\xi^2}} \sqrt{\frac{a}{u}} e^{\frac{u\sqrt{z}}{a}} \left(1 + \frac{1}{8\sqrt{z}} \frac{a}{u}\right) \quad 1)$$

$$\frac{dz}{du} = \frac{1}{u} \delta = \frac{1}{a} \frac{\xi}{\sqrt{1+\xi^2}} e^{\frac{u\sqrt{z}}{a}} \sqrt{\frac{a}{u}} \left\{1 - \frac{3}{8\sqrt{z}} \frac{a}{u} - \frac{3}{16} \frac{a^2}{u^2}\right\} \quad 2)$$

$\xi = 0,0020632 \quad \frac{u}{a} = 4,4 \quad \left. \begin{array}{l} \log \frac{1}{u} \delta = 0,9578229 - 2 \\ \log Z = 0,2295408 - 1 \end{array} \right\} \delta = 5^\circ 6' 52'' \quad Z = 0,169644$

Janitsin's Atlas d'Azimut 1884. $\xi = 0,0020632 \quad a^2 = 6 \quad a = 2,4495 \quad \frac{u}{a} = 4,4$ 2) formula
 Azimut $\delta = 5^\circ 6' 52''$ keresi, semiben az azimut táblán az $u = 12,60878 \quad \delta = 14^\circ$
 az a formulaival $u' - u = 2,4419$ az $u' = 15,0507$ az u táblán, Pólya
 formulaival az $b = 2922,89 = 2922,89$

u	Z	δ	$\frac{1}{b}$	δu	δz	$\frac{1}{u}$	$\frac{1}{2}(\frac{1}{u} + \frac{1}{u'})$	$\delta u'$	$\delta z'$
11,0690 25259	0,169644 22157	5° 6' 52''	0,048277	55' 8"	0,031864	0,031063	11,9660	0,00647	0,057440
11,35159 24723	0,230157 32034	7°	0,065982	10	0,26225	0,03452	11,61384	0,26468	0,076244
11,59492 24446	0,262891 32051	8°	0,075394	"	0,22895	0,034216	11,82387	0,26407	0,085588
11,80938 19263	0,294242 32235	9°	0,085609	"	0,20588	0,034454	12,01526	0,28696	0,095113
12,00201 17268	0,326477 32065	10°	0,094358	"	0,18187	0,033707	12,18388	0,36084	0,104399
12,17469 15717	0,358482 31976	11°	0,105820	"	0,16472	0,033516	12,33942	0,39198	0,112817
12,33186 14407	0,390458 31940	12°	0,113293	"	0,15040	0,033242	12,48226	0,429801	0,120245
12,47593 12285	0,422398 31895	13°	0,122768	1°	0,13822	0,032782	12,61416	0,45585	0,12716
12,60878	0,454293	14°							

keresi semiben $u' - u = \frac{a}{\delta + \delta' + \frac{1}{2}(\delta + \delta')}$ formulaival
 $u' - u = 2,4803$
 az $u' = 15,0891$
 az u táblán

$$a^2 = 6 \quad a = 2,4495 \quad b = 11,783873 \quad \log \{ = 0,7068632 - 7$$

(4=30 Pünkt)

$$\log D = \frac{\sqrt{2}}{a} \frac{1}{\sqrt{\pi u}} e^{\frac{u\sqrt{2}}{a}} \sqrt{\frac{a}{u}} \left\{ 1 - \frac{2}{8\sqrt{2}} \frac{a}{u} - \frac{2}{16} \frac{a^2}{u^2} \right\} \text{formulával}$$

Leve $\frac{u'}{a} = 10 \quad u = 24,4950 \quad \log u = \left\{ 1 - \frac{2}{8\sqrt{2}} \frac{a}{u} - \frac{2}{16} \frac{a^2}{u^2} \right\} = 0,97162$

$$\log \{ = 0,9874964 - 1$$

$$\log \sqrt{\frac{a}{u}} = 0,5000000 - 1$$

$$\log \{ = 0,7068632 - 7$$

$$\log e^{\frac{u\sqrt{2}}{a}} = 6,1418706$$

$$\log \frac{\sqrt{2}}{a} \frac{1}{\sqrt{\pi u}} = 0,2870897 - 1$$

$$\log D = 0,6232199 - 2$$

$$D = 2^\circ 24' 20''$$

$D = 2^\circ 24' 20''$ à $a = 2,4495$ értékekkel $\frac{2}{3}$ formulával

$$u' - u = 5,5210 \quad \text{és} \quad u' = 24,4950 + u' - u$$

$$\frac{24495}{30016} \quad u' = 30,0160$$

$u' = 30,0160$ értékkel a Bessel formulát megjelöl

$$b = 11,894480$$

Görbületi egyenlet és csúcs körülménye.

Párhuzamos-erő formula kiegészítése.

$\frac{1}{r} + \frac{1}{r'} = \frac{2r}{a^2}$ vagyis

$\frac{\sin \delta}{u} + \frac{d\delta}{ds} = \frac{2r}{a^2}$

$\frac{\sin \delta}{ds} + \frac{d\delta}{du} = \frac{2r}{a^2}$

$ds \cos \delta = du$

ha δ kicsiny

$ds = du$

$\frac{dr}{du} = \frac{1}{\cos^2 \delta}$

$\frac{dr}{du} = \frac{1}{\cos^2 \delta}$

$\frac{dr^2}{du^2} = \frac{1}{\cos^4 \delta} \frac{d\delta}{du}$

min, ismét az alábbi.

$\frac{1}{u} \frac{dr}{du} + \frac{dr^2}{du^2} = \frac{2r}{a^2}$ vagyis $u \frac{dr^2}{du^2} + \frac{dr}{du} = \frac{2r}{a^2}$

és az új egyenletet párhuzamos 212-ig addig ismét elfordítom.

Emlék az egyenletnek az integrálására Boole-szerint 469 oldal.

$z = C \int_0^\pi e^{\frac{ur \cos \varphi}{a}} d\varphi$

vagyis mivel ha $u=0$ $\int_0^\pi = \pi$ és $\xi = C\pi$ hol ξ a csúcs

középpontjának távolsága: π

$z = \frac{\xi}{\pi} \int_0^\pi e^{\frac{ur \cos \varphi}{a}} d\varphi$ 1)

a nagy egyenletet addig állítom $\cos \varphi$ helyére $\text{tch} \theta = 1$.

Az új pontokhoz megjelölöm néha az 1) egyenlet ill. tch $\theta = 1$

~~Kétség az az $\frac{1}{u}$ vagy az a -hoz képest kisfigyelés az $\frac{1}{u}$ felől.~~

~~$\int_0^\pi e^{\frac{ur \cos \varphi}{a}} d\varphi = C \int_0^\pi e^{\frac{-ur \sin \frac{\varphi}{2}}{a}} d\varphi$~~

$\int_0^\pi e^{\frac{ur \cos \varphi}{a}} d\varphi = 2e^{\frac{ur}{a}} \int_0^b \frac{e^{-x^2}}{\sqrt{b-x^2}} dx$

ahol $b = \frac{2ur \sqrt{2}}{a}$
 $x^2 = \frac{2ur \sqrt{2}}{a} \sin \frac{\varphi}{2}$

addig még x^2 kicsiny lesz.

$z = \frac{\xi}{\pi} 2e^{\frac{ur}{a}} \int_0^b \frac{e^{-x^2}}{\sqrt{b}} dx$

továbbá ha b értéket beleműtjük:

$$Z = 2 \frac{\xi}{\pi \sqrt{2} \sqrt{2}} \sqrt{\frac{a}{u}} e^{\frac{u\sqrt{2}}{a}} \int_0^b e^{-x^2} dx \quad \dots 2)$$

Poisson az integrál felő b határát végtelenre levetve olyan
széppé válik, melyben u nagy értékre nem megyünk el kétség
alatt.

$$\int_0^b e^{-x^2} dx = \int_0^{\infty} e^{-x^2} dx = \frac{1}{2} \sqrt{\pi} \text{ és}$$

$$Z = \frac{\xi}{\sqrt{2\pi} \sqrt{2}} \sqrt{\frac{a}{u}} e^{\frac{u\sqrt{2}}{a}} \dots 3)$$

Laplace mivelt

$$Z = \frac{\xi}{\sqrt{2\pi} \sqrt{2}} \sqrt{\frac{a}{u}} e^{\frac{u\sqrt{2}}{a}} \left(1 + \frac{1}{8\sqrt{2}u}\right)$$

$$\frac{dZ}{du} = \frac{\xi}{a} \frac{\sqrt{2}}{\sqrt{2\pi} \sqrt{2}} \sqrt{\frac{a}{u}} \left\{ -\frac{3a}{8\sqrt{2}u} - \frac{3a^2}{16u^2} \right\}$$

Műn addigra a nagy széppé válik akkor is

$$u = a\sqrt{2} \left(\cos \frac{\delta}{2} + \frac{1}{2} \log \frac{\delta}{4} \right) + C \text{ formulát}$$

ha u' a legnagyobb azaz ott hol $\delta = \frac{\pi}{2}$
u nem megy el kétség

$$\frac{u' - u}{a\sqrt{2}} = \frac{1}{\sqrt{2}} - 1 + \frac{1}{2} \log \frac{\pi}{8} - \frac{1}{2} \log \frac{1}{2} \sin \frac{\delta}{2}$$

o ha továbbá lemműtjük $z = a\sqrt{2} \sin \frac{\delta}{2}$ tehát $\frac{1}{2} \sin \frac{\delta}{2} = \frac{z}{a\sqrt{2}}$

o továbbá mivel $\frac{\pi}{8} = \sqrt{2} - 1 = \frac{1}{\sqrt{2} + 1}$ tehát

$$2 \frac{u' - u}{a\sqrt{2}} + \left(1 - \frac{1}{\sqrt{2}}\right) 2 = \log \frac{a(\sqrt{2}-1)2\sqrt{2}}{z} = \log 2(2-\sqrt{2}) \frac{2}{z}$$

$$\frac{a}{z} = \frac{1}{2(2-\sqrt{2})} e^{\sqrt{2} \frac{u' - u}{a} + \sqrt{2}(\sqrt{2}-1)} \quad \dots 4)$$

3 és 4-et egymással összevissza

$$a = \frac{\xi(\sqrt{2}+1)}{4\sqrt{\pi}\sqrt{2}} \sqrt{\frac{a}{u}} e^{\frac{\sqrt{2}}{a}(u' + a(\sqrt{2}-1))}$$

o mivel $\mu = \frac{\xi}{a}$ $\xi = \frac{a^2}{\mu}$ $\xi = \frac{a^2}{\mu}$

0,28654

$$\mu = \frac{a(\sqrt{2}+1)}{4\sqrt{\pi}\sqrt{2}} \sqrt{\frac{a}{u}} e^{\frac{\sqrt{2}}{a}(u' + a(\sqrt{2}-1))} \quad 5)$$

a hol u a legnagyobbat azaz ott hol $\frac{a}{u}$ kicsiny és δ kicsiny

u' a legnagyobb azaz. Poisson \int -ben helyi $u = u'$ akkor lesz
ez o formulasi quod erat demonstrandum.

Ms 5105/20

Török művelői meghatározása

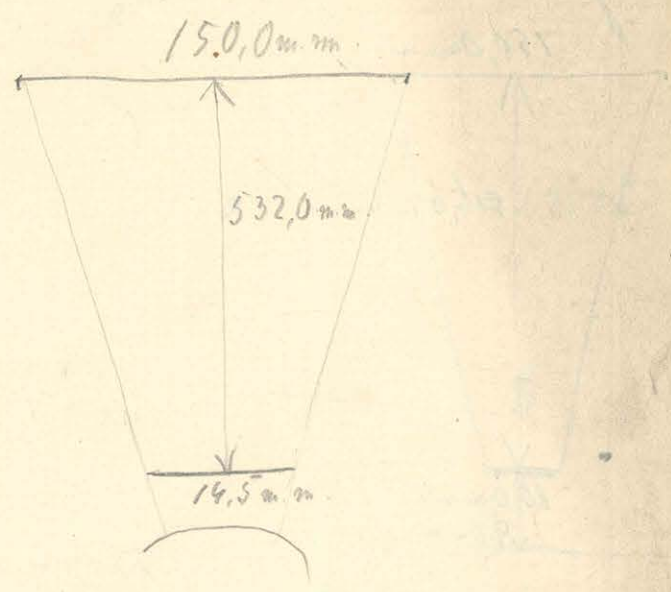
felgyűjtött atheni hengerek csücskeire

Névsor

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

Levegő töri mutatója

22,9 706,1 elv 36,8
 víz 36,8
 22,9 706,1 víz 23,1 36,9 706,2 elv 36,5 706,1
 22,7 705,9 elv 36,7 706,1 víz 23,0 36,7 706,3 elv 36,7 705,9
 víz 36,8



CO₂ töri mutatója

Ringhatározás

52,8) 859,8 elv 33,0) 859,3 víz 31,0 860,0
 víz 33,0
 32,5) 858,9 víz 33,8) 859,9 elv 34,8 859,1
 elv 51,9
 32,0) 859,5 víz 34,2) 860,0 R = 859,6
 víz 12,5

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X befektetés al

36,9) 569,7 elv 6,4) 570,6 víz 37,2) 569,7 elv 8,0 569,8
 víz 7,2
 35,4) 569,9 elv 8,5) 569,3 víz 35,4) 569,4 körp = 19,2
 víz 5,5
 35,4) 566,6 elv 8,5) 566,0 víz 34,6) 565,8 elv 9,8 565,8
 víz 9,4
 34,5) 565,6 körp = 19,5
 víz 8,9

11,1) 561,9 víz 21,8) 562,1 elv 57,7) 561,2 víz 20,5) 561,7
 elv 33,0
 57,4) 561,3 víz 20,8) 561,2 elv 57,8) 561,4 víz 20,5) 561,4
 elv 18,7
 59,6
 x = 561,5 körp = 20,1

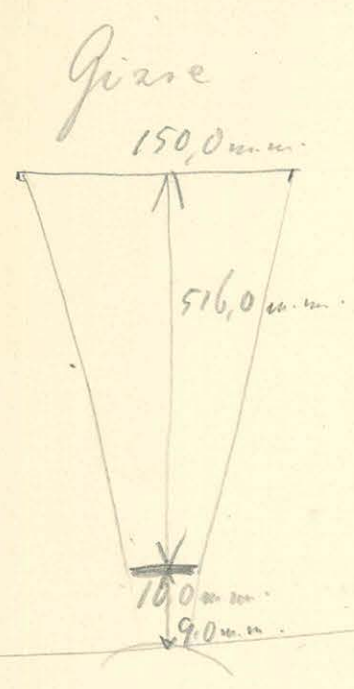
$$\begin{array}{r} 47,8 \\ \text{min } 35,8 \end{array} \begin{array}{r} 372,0 \\ 372,0 \end{array}$$

$$\begin{array}{r} 47,0 \\ \text{din } 35,0 \end{array} \begin{array}{r} 372,0 \\ 372,0 \end{array}$$

$$\begin{array}{r} 47,0 \\ 35,0 \end{array} \begin{array}{r} 372,0 \\ 372,0 \end{array}$$

$$\begin{array}{r} 35,0 \\ 47,2 \end{array} \begin{array}{r} 372,0 \\ 372,0 \end{array}$$

Temp. 20,1



Fujulokira

Fujulokira

$$\begin{array}{r} 7,1 \\ \text{min } 12,6 \end{array} \begin{array}{r} 654,5 \\ 654,7 \end{array}$$

$$\begin{array}{r} 12,5 \\ \text{din } 6,8 \end{array} \begin{array}{r} 654,5 \\ 654,7 \end{array}$$

$$\begin{array}{r} 7,0 \\ \text{min } 12,5 \end{array} \begin{array}{r} 1110 \\ 654,5 \end{array}$$

$$\begin{array}{r} 11,0 \\ \text{din } 5,5 \end{array} \begin{array}{r} 654,5 \\ 654,5 \end{array}$$

Temp = 8,1

gorben

$$\begin{array}{r} 57,6 \\ \text{min } 14,3 \end{array} \begin{array}{r} 343,3 \\ 343,3 \end{array}$$

$$\begin{array}{r} 9,0 \\ \text{din } 54,3 \end{array} \begin{array}{r} 345,3 \\ 345,3 \end{array}$$

$$\begin{array}{r} 55,0 \\ 9,5 \end{array} \begin{array}{r} 345,5 \\ 345,5 \end{array}$$

$$\begin{array}{r} 8,2 \\ 52,9 \end{array} \begin{array}{r} 344,7 \\ 344,7 \end{array}$$

$$\begin{array}{r} 58,2 \\ 13,2 \end{array} \begin{array}{r} 345,0 \\ 345,0 \end{array}$$

x = 344,8

Fujulokira

$$\begin{array}{r} 48,5 \\ \text{din } 16,8 \end{array} \begin{array}{r} 508,3 \\ 508,3 \end{array}$$

$$\begin{array}{r} 16,2 \\ \text{min } 49,3 \end{array} \begin{array}{r} 506,9 \\ 506,9 \end{array}$$

$$\begin{array}{r} 48,4 \\ \text{din } 16,0 \end{array} \begin{array}{r} 507,6 \\ 507,6 \end{array}$$

$$\begin{array}{r} 13,5 \\ \text{min } 48,8 \end{array} \begin{array}{r} 504,7 \\ 504,7 \end{array}$$

$$\begin{array}{r} 49,0 \\ 13,5 \end{array} \begin{array}{r} 504,5 \\ 504,5 \end{array}$$

$$\begin{array}{r} 14,2 \\ \text{min } 50,0 \end{array} \begin{array}{r} 504,2 \\ 504,2 \end{array}$$

$$\begin{array}{r} 49,5 \\ 13,0 \end{array} \begin{array}{r} 503,5 \\ 503,5 \end{array}$$

t = 24,2

30 percent Kelebl

$$\begin{array}{r} 12,1 \\ \text{min } 50,8 \end{array} \begin{array}{r} 501,3 \\ 501,3 \end{array}$$

$$\begin{array}{r} 49,8 \\ \text{din } 11,6 \end{array} \begin{array}{r} 501,8 \\ 501,8 \end{array}$$

$$\begin{array}{r} 13,0 \\ \text{min } 50,8 \end{array} \begin{array}{r} 502,2 \\ 502,2 \end{array}$$

$$\begin{array}{r} 50,4 \\ \text{din } 12,5 \end{array} \begin{array}{r} 502,1 \\ 502,1 \end{array}$$

10 percent Kelebl

$$\begin{array}{r} 12,2 \\ \text{min } 50,2 \end{array} \begin{array}{r} 502,0 \\ 502,0 \end{array}$$

$$\begin{array}{r} 50,8 \\ \text{din } 12,4 \end{array} \begin{array}{r} 501,6 \\ 501,6 \end{array}$$

$$\begin{array}{r} 12,4 \\ \text{min } 50,8 \end{array} \begin{array}{r} 501,6 \\ 501,6 \end{array}$$

$$\begin{array}{r} 50,6 \\ \text{din } 12,8 \end{array} \begin{array}{r} 502,2 \\ 502,2 \end{array}$$

Temp 24,35

372

Alat inspeksi pelbagai... Fapadikban

51,1 502,2 di 29,0 502,4 om 50,2 501,0 di 28,9 502,5
 28,9
 51,2 501,7 di 30,5 502,0 om 49,8 501,9 di 78,0 502,2
 29,5

Geben

3,1 400,2 di 22,8 399,4 om 2,2 400,7 di 21,6 400,7
 22,9
 2,8 400,8 di 21,3 400,7
 22,0
 temp. 24,4

Fapadikban

18,7 459,7 di 38,6 461,4 om 22,2 464,2 di 37,0 464,0
 39,0
 22,7 465,5 di 36,0 465,0 om 21,0 466,0 di 35,7 466,3
 37,2
 21,5 466,0 35,0 466,5
 35,5
 temp. 26,1

30 percobaan Kesel

STASYAR
INDUSTRI AKADEMIA
KONYITARA

x = 467,4

22,0 467,0 di 34,4 467,6 om 22,0 467,3 di 34,4 467,4
 35,0
 21,5 467,0 34,2 467,6 21,3 467,3 34,2 467,5
 34,5

Geben

2,0 412,6 om 2,4 412,0 di 2,6 412,4 di 54,6 412,4
 54,6
 2,5 412,3 om 55,0 412,4 di 2,4 412,4 di 55,2 412,5
 54,8
 x = 412,4
 temp. 26,1
 26,2

Rangkaiannya

21,0 860,8 di 19,8 861,1 di 21,4 861,0 di 21,0 861,0
 0,2 40,9 0,4 42,0

verte.

CO₂ törismutatója

$R = 6.775$

$2R = 13.55 \text{ mm. } 2r = 9.55 \text{ mm. } r = 4.775$

~~szöglet~~

Fofadékon

Temp = 20.1

$2R = 859.6$

$l = 525.0 \text{ mm.}$

$a = 75.0 \text{ mm.}$

$l+r = 529.775$

$\alpha = \delta - (\epsilon - \delta)$

$\delta = \alpha + (\epsilon - \delta)$

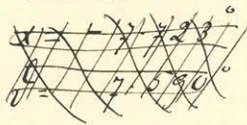
$n_{23} = 1.523$

$x = 561.5 = 8.851 \text{ mm.}$

$\delta = 40.784^\circ$

$\epsilon - \delta = 0.133^\circ$

$\epsilon = 40.917^\circ$



$\alpha = 0.338^\circ$

0.133

$\delta = 0.471^\circ$

$\beta - \gamma = 12.131$

$\alpha = 52.872^\circ$

$\frac{R}{r} = 1.419$

$\frac{x}{R} = 0.6532$

$n = 1.163$

$n^2 = 1.3525$

$\frac{R}{r}$
 $\frac{1.419}{1.88}$

8

Temp 8.1

$x = 654.55 = 1.932 \text{ mm. } \frac{x}{R} = 0.76147$

$\delta = 49.593^\circ$

$\epsilon - \delta = 0.155^\circ$

$\epsilon = 49.748^\circ$

$\alpha = 0.394^\circ$

$\frac{155}{549}$
 $\delta = 0.549^\circ$

$\beta - \gamma = 15.244$

$\alpha = 64.717^\circ$

$n = 1.195$

0.69

$\frac{1.419}{1.88}$

0.85

$\frac{1.419}{1.88}$

$n^2 = 1.4280$

Temp 26.1

$2R = 861.0$

$l = 519.0 \text{ mm}$

$r = 4.775$

$l+r = 523.775$

$x = 467.4$

$\delta = 32.879^\circ$

$\epsilon - \delta = 0.111^\circ$

$\epsilon = 32.990^\circ$

$\alpha = 0.284^\circ$

111

$\delta = 0.395$

$\beta - \gamma = 9.533$

$\alpha = 42.325$

$\frac{1.419}{1.88}$

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$n = 1.144$

$n^2 = 1.3088$

Görben

$a = 75.0 \text{ mm.}$

Temp. 26.1

$x = 412.4$

$\delta = 28.619^\circ$

$\epsilon - \delta = 0.097^\circ$

$\epsilon = 28.716^\circ$

$\delta = -7.671$

$\beta - \gamma = 8.200$

$\alpha = 90.752^\circ$

Temp 20.1

$x = 372.0$

$\delta = 25.640^\circ$

$\epsilon - \delta = 0.090^\circ$

$\epsilon = 25.730^\circ$

$\delta = -7.624$ (máriszra)

$\delta = -7.635$ (énkelve)

$\alpha = 36.838$

$n = 1.0241$

Temp. 8.1

$x = 344.8$

$\delta = 23.648^\circ$

$\epsilon - \delta = 0.082^\circ$

$\epsilon = 23.730^\circ$

$\delta = -7.654^\circ$

$\beta - \gamma = 6.622^\circ$

$\alpha = 34.179^\circ$

$n = 1.0131$

$n = 1.0411$

Jaire

$$\begin{aligned} \{R\} &= 0.83091 \\ \{m\} &= 0.63762-1 \\ \{R+l\} &= 2.72573 \\ & \underline{3.19426} \\ & 1564.1 \end{aligned}$$

$$\begin{aligned} a\sqrt{v} &= \frac{40278}{39713.9} \\ & \underline{1564.1} \end{aligned}$$

$$\begin{aligned} \{38\} &= 4.58787 \\ \{A\} &= \frac{5.40006}{0.12786-1} \end{aligned}$$

$$\begin{aligned} & \frac{7.714}{0.90} \\ & \underline{-7.624} \\ & 0.78818-1 \\ & \underline{77783-1} \\ & 0.01035 \\ & \underline{1.0241} \end{aligned}$$

$$\begin{aligned} a^2 &= 5625.0 \\ \{(R)\} &= 282783 \\ a^2 \{(R)\} &= 288408 \end{aligned}$$

$$\begin{aligned} \{a^2 \{R\}\} &= 5.46001 \\ \{V\} &= 2.73001 \\ 2a &= \frac{1.87506}{4.60507} \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= 0.63624-1 \\ \frac{R}{T} &= \frac{0.15194}{0.78818-1} \\ \{m\} &= 0.68849 \\ & \underline{0.09969} \\ n &= 1.258 \end{aligned}$$

Temp = 20.1

$$\begin{aligned} \{(L+R)\} &= 1.66182 \\ \{(L+R)\} &= 5.45146 \end{aligned}$$

$$\begin{aligned} \left\{\left(\frac{R}{T}\right)\right\} &= 0.93842-1 \\ \{m^2 \varepsilon\} &= \frac{0.27524-1}{0.21366-1} \end{aligned}$$

$$\begin{aligned} 0.163554 \quad \{0.83645\} &= 0.92244-1 \\ \left(\frac{R}{T}\right) &= \frac{2.01318}{1.84963} \quad \{V\} = 0.96122-1 \end{aligned}$$

$$\begin{aligned} \{1.84\} &= 0.26708 \\ \{V\} &= 0.13354 \end{aligned}$$

$$\begin{aligned} \sqrt{v} &= 1.36000 \\ \sqrt{v} &= 0.91458 \\ \{0.44542\} &= 0.64877-1 \\ \{m\} &= 0.63762-1 \end{aligned}$$

$$\begin{aligned} \{m\} &= 0.28639-1 \\ \{m\} &= 0.18273 \\ \{m\} &= 0.10366-1 \end{aligned}$$

$$\begin{aligned} \beta-y &= 7.296 \\ \varepsilon &= 25.730 \\ & \underline{33.026} \\ \frac{1}{2} &= 3.812 \\ a &= 29.214 \\ R &= 36.838 \end{aligned}$$

$$\begin{aligned} 3.3 \quad \{x\} &= 2.53757 \\ 5.3 \quad \{R\} &= 2.93430 \\ 5.5 \quad \{m\} &= 0.60327-1 \\ 4.7 \quad \{3800\} &= 3.57978 \\ 5.0 & \underline{0.02349-4} \\ 25.8 \quad \{1355\} &= 1.13194 \\ 4.8 & \underline{0.15543-3} \end{aligned}$$

$$\begin{aligned} \alpha &= \frac{-7.736}{0.82} \\ & \underline{7.654} \\ \beta-y &= 6.622 \\ \frac{1}{2} &= 3.827 \\ \varepsilon &= 23.730 \\ & \underline{39.179} \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= 0.60327-1 \\ \frac{R}{T} &= \frac{0.15194}{0.75521-1} \\ \{m\} &= 0.74957-1 \\ \{R\} &= 0.00564 \quad n = 1.0031 \end{aligned}$$

Temp = 8.1

$$\begin{aligned} \{R\} &= 0.83091 \\ \{m\} &= 0.60469-1 \\ \{R+l\} &= 2.72573 \\ & \underline{3.16133} \\ & 1449.9 \\ & \underline{40278} \\ \{38828.1\} &= 4.58915 \\ & \underline{5.46006} \\ & 0.12909-1 \end{aligned}$$

$$\begin{aligned} \left\{\left(\frac{R}{T}\right)\right\} &= 0.93842-1 \\ \{m^2 \varepsilon\} &= \frac{0.20938-1}{0.14780-1} \end{aligned}$$

$$\begin{aligned} 0.11164 \quad \{0.88836\} &= 0.94859-1 \\ 2.01318 \quad \{V\} &= 0.97430-1 \\ \{1.90154\} &= 0.27910 \\ \{V\} &= 0.13955 \end{aligned}$$

$$\begin{aligned} \sqrt{v} &= 1.37899 \\ \sqrt{v} &= 0.94254 \\ \{0.43645\} &= 0.63993-1 \\ \{m\} &= 0.60469 \\ & \underline{0.24462-1} \\ \{m\} &= 0.18273 \\ \{m\} &= 0.06189-1 \end{aligned}$$

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$$\begin{aligned} l &= 519.0 \\ R &= \frac{6.775}{525.775} \\ \{(L+R)\} &= 2.72079 \\ \{(L+R)\} &= 5.44158 \\ \{(L+R)\}^2 &= 276425 \\ a^2 &= 5625 \\ \{282050\} &= 5.45033 \\ \{V\} &= 2.72517 \\ \{a\} &= 1.87506 \\ \{a\sqrt{v}\} &= 4.60023 \\ a\sqrt{v} &= 39832 \\ & \underline{1711} \\ \{38121\} &= 4.58116 \\ & \underline{5.45033} \\ & 0.13083-1 \end{aligned}$$

Temp. 26.1

$$\begin{aligned} \{x\} &= 2.61532 \\ \{R\} &= 2.93500 \\ \{m\} &= 0.68032-1 \\ \{3800\} &= 3.57978 \\ & \underline{0.10054-4} \\ & 1.13194 \\ \{m\} &= 0.23248-3 \\ \{R\} &= 2.93500 \\ \{m\} &= 0.68164-1 \\ \{(L+R)\} &= 2.72079 \\ & \underline{5.33743} \\ & 2.93500 \\ & \underline{2.40243} \\ \{R\} &= 0.83091 \\ & \underline{3.23334} \end{aligned}$$

$$\begin{aligned} \left\{\left(\frac{R}{T}\right)\right\} &= 0.93842-1 & 12.6 \\ \{m^2 \varepsilon\} &= \frac{0.36328-1}{0.30170-1} & 12.0 \\ & & 12.4 \\ & & 12.4 \\ & & 12.3 \\ 0.20031 \quad \{0.79969\} &= 0.90292 & 12.4 \\ 2.01318 \quad \{V\} &= 0.95146 & 12.4 \\ \{1.81287\} &= 0.25837 & 12.5 \\ \{V\} &= 0.12919 & 3.0 \\ \sqrt{v} &= 1.34644 & 12.4 \\ \sqrt{v} &= 0.89426 & \\ \{0.45218\} &= 0.65531-1 & \\ \{m\} &= 0.68164-1 & \\ & \underline{0.33695-1} & \\ \{m\} &= 0.18273 & \\ & \underline{0.15422-1} & \end{aligned}$$

$$\begin{aligned} \alpha &= \frac{-7.768}{0.97} \\ & \underline{7.671} \\ \beta-y &= 8.700 \\ \frac{1}{2} &= 3.836 \\ \varepsilon &= 28.716 \\ & \underline{30.752} \end{aligned}$$

$$\begin{aligned} \frac{x}{R} &= 0.68032-1 \\ \frac{R}{T} &= \frac{0.15194}{0.83226-1} \\ \{m\} &= 0.81777 \\ \{n\} &= 0.01749 \\ n &= 1.0411 \end{aligned}$$

$$\begin{aligned} \sum x^2 &= 0.49519 \\ \sum x + r &= 2.72409 \\ \hline &0.77110-3 \end{aligned}$$

$$\sum \alpha = \cancel{0.79} 0.338^\circ$$

$$\begin{aligned} \sum R &= 1.13194 \\ \sum r &= 0.98000 \\ \hline \sum \frac{R}{r} &= 0.15194 \end{aligned}$$

$$\sum \left(\frac{R}{r}\right)^2 = 0.30388$$

$$\sum \sin^2 \epsilon = 0.63244-1$$

$$\sum n_{13}^2 = 0.36546$$

$$\begin{aligned} \sum R^2 &= 0.37227 \\ \sum r^2 &= 2.01318 \\ \hline &1.64091 \end{aligned}$$

$$\sum 1.64 \dots = 0.21509$$

$$\sum V = 0.10755$$

$$\sum = 4.1281$$

$$= 1.28700$$

$$0.79230$$

$$0.48870$$

$$\sum 0.48 \dots = 0.68904-1$$

$$\sum \sin \epsilon = 0.81622-1$$

$$0.50526-1$$

$$\sum n_{13} = 0.18273$$

$$\sum \sin(\beta-\gamma) = 0.32253-1$$

$$\beta-\gamma = 12.131$$

$$\epsilon = 40.917$$

$$\beta-\gamma = 12.131$$

$$53.048$$

$$0.236$$

$$52.812$$

$$\sum \frac{R}{r} = 0.15194$$

$$\sum \frac{x}{R} = 0.88165-1$$

$$0.03359$$

$$\sum \sin^2 \epsilon = 0.95627$$

$$0.07732$$

$$n = 1.195$$

CO₂ termometoji pozicija

$$\begin{aligned} 16.775 &= 0.83091 \\ \sum \sin \epsilon &= 0.81622-1 \\ &0.64713 \dots \\ &2.72572 \\ \hline \sum 53.177 &= 0.92146-3 \end{aligned}$$

$$\alpha = 0.478$$

$$\begin{aligned} 53.048 \\ 306 \\ \hline 52.742 \end{aligned}$$

$$\begin{aligned} \sum \sin \alpha &= 96699-1 \\ &90087 \\ \hline &06612 \end{aligned}$$

$$1.164$$

$$\text{temp} = 8.1$$

$$\sum x = 2.81595$$

$$\sum R = 2.93430$$

$$\sum \sin \epsilon = 0.88165-1$$

$$\sum = 49.593$$

$$\sum x = 2.81595$$

$$\sum 13.55 = 1.13194$$

$$3.94789$$

$$\sum R = 2.93430$$

$$1.01359$$

$$\sum 3800 = 3.57978$$

$$0.43381-3$$

$$\sum r = 0.67897$$

$$\sum x + r = 2.72409$$

$$0.95488-3$$

$$\sum \sin \epsilon = 0.88265-1$$

$$\sum \sin \alpha = 0.83753-3$$

$$\alpha = 0.394$$

$$\sum \left(\frac{R}{r}\right)^2 = 0.30388$$

$$\sum n_{13}^2 = 0.36546$$

$$\sum n_{13} \left(\frac{R}{r}\right)^2 = 0.93842-1$$

$$\sum \sin^2 \epsilon = 0.76530-1$$

$$0.70372-1$$

$$0.50550$$

$$\sum 0.49450 = 0.69417-1$$

$$\sum V = 0.84708-1$$

$$\sum \frac{R^2}{r^2} = 2.01318$$

$$1.50768$$

$$\sum 1.5 \dots = 0.17831$$

$$\sum V = 0.08916$$

$$\sum = 1.2279$$

$$\sum 0.5247 = 0.71991-1$$

$$\sum \sin \epsilon = 0.88265-1$$

$$0.60256-1$$

$$\sum n_{13} = 0.18273$$

$$\sum \sin(\beta-\gamma) = 0.41983-1$$

$$\beta-\gamma = 15.244$$

$$\epsilon = 49.748$$

$$64.992$$

$$0.275$$

$$64.717^\circ$$

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

temp = 20.1

CO₂ kőzi mutatója

$2R = 13,55 \text{ mm.} = 859,6 \text{ sekond.} \quad \text{húsp. } 20-1$

$2T = 9,55 \text{ mm.}$

$\sin \delta = \frac{561,5}{859,6}$

$1561,5 = 2,74935$
 $1859,6 = 2,93430$
 $8 \sin \delta = 0,81505-1$
 $\delta = 40,784^\circ$

59,8	1,9
59,3	2,1
60,0	1,2
58,9	1,7
59,9	1,3
59,1	1,2
59,5	1,4
60,0	1,4
<u>476,5</u>	<u>12,2</u>
59,0	1,5

$\lg(\varepsilon - \delta) =$
 $x = \frac{561,5}{859,6} \cdot 13,55$

$913,55 = 1,13194$
 $1561,5 = 2,74935$
 388129
 $1859,6 = 2,93430$
 $0,94699$
 $8,851$

$\lg(\varepsilon - \delta) = \frac{8,851}{222822520} = \frac{8,851}{3800}$

$18,851 = 0,94699$
 $3800 = 3,57978$
 $0,36721-3$

$\alpha_1 = 8,392^\circ$

$\alpha_2 = -7,723^\circ$

$r/r = 0,67897$
 $8 \sin \varepsilon = 0,81622-1$
 $\sin \varepsilon = 0,49519$
 $2(l+r) = 2,72409$
 $3,21928$
 $r(l+r) \sin \varepsilon = 1,65619$

~~$r_1 = 4,62101$~~
 ~~$N = 5,95680$~~
 ~~$\sin \alpha_1 = 0,16421-1$~~
 ~~$\alpha_1 = 8,392^\circ$~~

~~$r_2 = 4,58558$~~
 ~~$5,45080$~~
 ~~$\sin \alpha_2 = 0,112833-1$~~
 ~~$\alpha_2 = 7,723^\circ$~~

~~$\delta - \varepsilon - \nu = 8,592^\circ$~~
 ~~$8,592^\circ$~~
 ~~$8,825^\circ$~~

$\delta - \varepsilon - \nu = -7,723^\circ$
 $0,133$
 $0,7590$

$r(r \sin \varepsilon)^2 = 0,99038$

$1a = 1,87506$
 $1a^2 = 3,75012$
 $2(l+r) = 2,72409$
 $2(l+r)^2 = 5,44818$
 $a^2 = 5625,0$
 $(l+r)^2 = 280660$

$r \sin^2 \varepsilon = \frac{9,8}{286285,0}$
 $286275,2$
 ~~$\varepsilon = 5,45678$~~
 $2V = 2,72839$
 $1a = 1,87506$
 $4,60345$

$aV = 40128$
 $1656,9$
 $41784,9$

$aV = \frac{40128}{1656,9}$
 $38471,1$

$aV = 40128$
 $1656,9$
 $+ 41784,9$

40128
 $1656,9$
 $- 38471,1$

MAGYAR TUDOMÁNYOS AKADÉMIA KÖNYVTÁRA

$\frac{l+r}{r} = \frac{\sin \varepsilon}{\sin(\nu + \delta - \varepsilon)} ; \sin \alpha = \frac{r}{l+r} \sin \varepsilon$

07,0	7,0	0
07,6		3
		4
		0
		6
		3
		5
		<u>27</u>
		4

Jenny 26.1

$$\begin{aligned} \sum x &= 2.66969 \\ \sum R &= 2.93500 \\ \sum \sin \delta &= 0.73469-1 \\ 1335 &= \frac{7.13194}{0.86663} \\ \sum 3870 &= \frac{3.57978}{0.28685-3} \end{aligned}$$

$$\begin{aligned} \sum r &= 0.67897 \\ \sum r &= \frac{2.71915}{0.95982-3} \\ \sum \sin \varepsilon &= 0.73599-1 \\ \sum \sin \alpha &= 0.69581-3 \\ \alpha &= 0.284 \end{aligned}$$

$$\begin{aligned} \sum \frac{x}{R} &= 0.73469-1 \\ \sum \frac{R}{R} &= \frac{0.15194}{0.88663-1} \\ \sum \sin \alpha &= 0.82824-1 \\ \sum r &= 0.05839 \end{aligned}$$

$$\begin{aligned} \sum \frac{R}{R} &= \frac{0.93842-1}{0.41040-1} \\ \sum \sin^2 \varepsilon &= \frac{0.47198-1}{0.41040-1} \end{aligned}$$

$$\begin{aligned} \sum R^2 &= \frac{0.25728}{1.75590} \\ \sum 1.75 &= 0.24450 \\ \sum V &= 0.12225 \\ V &= 1.3251 \end{aligned}$$

$$\begin{aligned} \sum 0.4633 &= 0.66586-1 \\ \sum \sin \varepsilon &= \frac{0.73599-1}{0.40185-1} \\ \sum M_{13} &= \frac{0.18273}{0.21912-1} \end{aligned}$$

$$\begin{aligned} \beta - \gamma &= 9.533 \\ \varepsilon &= \frac{32.990}{42.523} \\ &= \frac{198}{42.325} \end{aligned}$$

$$\begin{aligned} &525.0 \\ &6.775 \\ \hline &531.775 \end{aligned}$$

June 20.1

$$\begin{aligned} \sum x &= 2.57054 \\ \sum R &= 2.93430 \\ \sum \sin \delta &= 0.63624-1 \\ \delta &= 25.643 \\ \sum \frac{x}{R} &= 0.63624-1 \\ \sum 3870 &= \frac{3.57978}{0.05646-4} \\ &= \frac{1.13194}{0.18840-3} \\ \varepsilon - \delta &= 0.090 \end{aligned}$$

$$\begin{aligned} \sum r &= 0.67897 \\ \sum \sin \varepsilon &= 0.63762-1 \\ \sum (r+r) &= \frac{2.72409 \times 2}{3.04068} \\ &= \frac{1098.2}{40128} \\ \sum N &= \frac{41226 = 4.61517}{5.45680} \\ &= \frac{0.15837-1}{0.15837-1} \end{aligned}$$

$$\begin{aligned} \sum R &= 0.83091 \\ \sum \sin \varepsilon &= \frac{0.63762-1}{0.46853} \\ \sum (r+r) &= \frac{2.72573}{3.19426} \end{aligned}$$

$$\begin{aligned} &40128 \\ &1098.2 \\ \hline &39029.8 \end{aligned}$$

$$\begin{aligned} \sum aF &= 2.40128 \\ \sum (r+r) &= 2.72573 \end{aligned}$$

$$\delta = 8.279^\circ$$

$$\begin{aligned} \sum R &= 4.591399 \\ \sum N &= \frac{5.45680}{0.13460-1} \end{aligned}$$

$$\alpha = -7.56^\circ = \delta - \varepsilon + \delta$$

$$\begin{aligned} 7.44' \quad \sum R &= 4.591304 \\ \sum N &= \frac{5.45680}{0.13460-1} \end{aligned}$$

$$\begin{aligned} \alpha &= -7.836^\circ \\ \delta - \varepsilon + \delta &= -7.836 \\ \delta &= -7.836 + \varepsilon - \delta \\ &= \frac{0.90}{-7.746} \end{aligned}$$

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$$\begin{aligned} 75.0 \\ 70.0 \\ \hline 516 \end{aligned} \quad \begin{aligned} \sum 70 &= 1.84510 \\ \sum 516 &= \frac{2.71265}{0.13245} \end{aligned}$$

$$\begin{aligned} 7.725 \\ \hline 90 \\ \hline 7.635 \end{aligned}$$

$\mu + \beta \varepsilon +$

$$\frac{l+r}{r} = \frac{\sin \varepsilon}{\sin(\delta - \varepsilon + \sigma)} = \frac{\sin \varepsilon}{\sin(\pi - [\delta - \varepsilon + \sigma])} = \frac{\sin \varepsilon}{\sin(\delta - \varepsilon + \sigma)}$$



Annexus. Trigonometri

Temp 123,1

$x = 460,2$
 $R = 692,7$

$S = 41,633^\circ$
 $\varepsilon - S = 0,114^\circ$
 $\varepsilon = 41,747^\circ$
 $J = ~~8,390~~ ~~7,940~~ 4,319$
 $P - x = 7,522^\circ$

~~$n = 1,306$~~ $n = ~~1,266~~ 1,190$

) 0,065

Temp 127,7

$x = 500,8$
 $R = 695,9$

$S = 46,024$
 $\varepsilon - S = 0,123$
 $\varepsilon = 46,147$
 $J = 0,594$
 $P - x =$

~~$n = 1,197$~~ ~~$n = 1,229$~~ $n = 1,175$

) 0,085

Temp = 132,2

$x = 466,5$
 $R = 699,1$

$S = 41,858$
 $\varepsilon - S = 0,115$
 $\varepsilon = 41,973$
 $J = -6,961 = -3,220$
 $P - x = 8,42$

~~$n = 1,154$~~ ~~$n = 1,183$~~ $1,117$

Temp 19,8

$x = 232,6$

$S = 19,434$
 $\varepsilon - S = 0,057$
 $\varepsilon = 19,491$
 $J = ~~15,180~~ 7,855$
 $P - x = 3,334$

~~$n = 1,177$~~ ~~$n = 1,139$~~ $1,317$

Temp = 76,1

$x = 284,6$

$S = 24,022$
 $\varepsilon - S = 0,069$
 $\varepsilon = 24,091$
 $J = ~~14,856~~ ~~15,270~~ 7,973$
 $P - x = 4,154$

~~$n = 1,177$~~ $n = 4,614$ ~~$n = 1,383$~~

1,274

Temp = 94,6

$x = 324,9$

$S = 27,093$
 $\varepsilon - S = 0,079$
 $\varepsilon = 27,172$
 $J = 15,387$
 $P - x = 4,825$

$n = 1,253$

~~$n = 1,540$~~

~~$n = 1,356$~~

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t	n	$\frac{\partial n}{\partial t}$	$\frac{\partial n}{\partial t}$
19,8	1,1773	0,159	0,00283
76,1	1,614	0,074	0,00400
94,6	1,540	0,236	0,00828
123,1	1,304	0,065	0,01413
127,7	1,239	0,085	0,01889
132,2	1,154		

t	n	$\frac{\partial n}{\partial t}$	$\frac{\partial n}{\partial t}$
19,8	1,436	0,053	0,000941
76,1	1,383	0,027	0,001459
94,6	1,356	0,099	0,003158
123,1	1,266	0,027	0,005069
127,7	1,239	0,056	0,012444
132,2	1,183		

$r+a+d$

$\frac{6,49}{6,74}$
 $\frac{6,74}{15,23}$

$$m = \frac{6,49}{\frac{1,84}{1,53} + 2,325 \left(\frac{8,74}{8,74 + 4,65 + 1,84 + 1} \right)} = \frac{6,49}{1,200 + 3,659} = \frac{6,49}{4,859}$$

$$2,325 \times \left(1 + \frac{8,74}{15,23} \right)$$

$\frac{0,87224}{68655}$
 $\frac{0,12569}{}$

335

$\frac{2,325 \cdot 23,97}{15,12}$

$\frac{26482}{18554}$
 $\frac{02928}{}$

$\frac{0,36642}{1,37967}$
 $\frac{1,74609}{1,18270}$
 $\frac{0,56339}{}$

$$\begin{array}{r} 5568,5 = 2,75473 \\ 431,5 = 2,63498 \\ \hline 0,11975 \\ 70783 \\ \hline 0,42078 \end{array}$$

$$\begin{array}{l} t = 96,8 \\ t = 95,0 \\ t = 94,6 \end{array}$$

$$\frac{w_1 - w_0}{w_0} = 0,2378$$

$$\alpha + \beta t^2 = 0,2435$$

$$0,2388$$

$$\begin{array}{r} 2,6350 \\ 1287 \\ \hline 0,5063 = 0,70441-1 \\ 32812 \\ 0,37629-1 \\ 39041 \\ \hline 1,98588 \end{array}$$

$$\begin{array}{r} 3,97176 \\ 77379-7 \\ \hline 0,74555-3 \end{array}$$

$$\begin{array}{r} 595 = 1,97772 \\ 39041-3 \\ \hline 0,36813 \end{array}$$

$$\begin{array}{r} 3,95544 \\ 77379 \\ \hline 0,72923-3 \end{array}$$

$$\begin{array}{r} 0,2334 \\ 0054 \\ \hline 0,2388 \end{array}$$

$$\frac{w_0}{47} \times 1,8 \quad 18:47 = 0,4$$

$$\begin{array}{r} 558,9 = 2,77733 \\ 441,1 = 2,64454 \\ \hline 0,10279 \\ 30703 \\ \hline 0,40382 \end{array}$$

$$\begin{array}{l} t = 77,5 \\ t = 76,0 \\ t = 76,1 \end{array}$$

$$\frac{w_1 - w_0}{w_0} = 0,1904$$

$$\alpha + \beta t^2 = 0,1940$$

$$0,1901$$

$$= 0,1904$$

$$\begin{array}{r} 2,5341 \\ 1287 \\ \hline 0,4054 = 0,60788-1 \\ 32872 \\ 0,27976-1 \\ 39041 \\ \hline 1,88935 \end{array}$$

$$\begin{array}{r} 3,77870 \\ 77379-7 \\ \hline 0,55249-3 \end{array}$$

$$\begin{array}{r} 176 = 1,88081 \\ 39041 \\ \hline 27122 \end{array}$$

$$\begin{array}{r} 3,76762 \\ 77379 \\ \hline 53541 \end{array}$$

$$\begin{array}{r} 1867 \\ 0034 \\ \hline 1901 \end{array}$$

$$\frac{3}{39} \times 1,5 \quad 45:39 = 0,1$$

$$\begin{array}{r} 562,5 \\ 6,5 \\ \hline 269,5 \end{array}$$

Terminatati
Tempo 123,1

$$\begin{array}{r} 0,48793-1 \\ 18548 \\ \hline 0,30245-1 \end{array} \quad \begin{array}{r} 11,575 \\ 41,747 \\ \hline 53,322 \\ 2,160 \\ \hline 51,162 \end{array} \quad \begin{array}{r} 0,96719 \\ 0,89149 \\ \hline 0,07570 \end{array}$$

$$\begin{array}{r} (L+R) = 2,75511 \\ 81224 \\ 3,56735 \\ 82337 \\ \hline 3,39072 \end{array}$$

$$\begin{array}{r} 2459 \\ 43045 \\ \hline 245504 = 4,65805 \\ 5,51772 \\ \hline 0,14033-1 \end{array}$$

$$\begin{array}{r} \rho - \gamma = 7,522 \\ 40,747 \\ \hline 49,269 \\ 3,970 \\ \hline 45,299 \end{array}$$

$$\begin{array}{r} 0,96719 \\ 85173 \\ \hline 0,11546 \end{array} \quad h =$$

$$\begin{array}{r} R = 0,87224 \\ \rho + R = 2,75511 \\ \hline 0,05713-2 \\ \rho_{me} = 0,85801 \\ \hline 0,91514-3 \end{array}$$

$$\begin{array}{r} 127,7 \\ \hline 0,471 \\ 123 \\ \hline 0,5940 \end{array} \quad \begin{array}{r} 0,91862-1 \\ \rho_{me} = 0,71602 \\ \hline 0,63464-1 \end{array}$$

$$\begin{array}{r} 431160 \\ 1,94800 \\ \hline 1,51684 = 0,18094 \\ \rho V = 0,09047 \\ V = 1,23160 \\ v = 0,25422 \end{array} \quad \begin{array}{r} 10,56884 = 0,75499 \\ (V = 0,87750) \end{array}$$

$$\begin{array}{r} \rho - \gamma = 8,426 \\ z = 46,024 \\ \hline 54,450 \\ 297 \\ \hline 54,153 \end{array}$$

$$\begin{array}{r} 0,00190 \\ 90886 \\ \hline 0,09310 \end{array}$$

$$\begin{array}{r} 0,47738 = 0,67886-1 \\ \rho_{me} = 0,85801 \\ \hline 0,53687-1 \\ 37096 \\ \hline 0,16591 \end{array}$$

$$\begin{array}{r} 0,53687-1 \\ 18548 \\ \hline 0,35139-1 \end{array}$$

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KONVIKARA

$$\begin{array}{r} 12,979 \\ 46,024 \\ \hline 59,003 \\ 297 \\ \hline 58,706 \end{array}$$

$$\begin{array}{r} 0,00190 \\ 93172 \\ \hline 0,07018 \end{array}$$

$$h = 1,175$$

15x15
75
225

Temp 19,8

$R = 6991$
 $l = 553,0$
 $a = 150,0$
 $\lambda = 553,0$
 $R = 6,5$
 $559,5$
 $x = 232,6$
 $sx = 2,36667$
 $lR = 2,84454$
 $0,52207-1$
 $14360 = 3,63949$
 $0,88258-5$
 $1,11327$
 $0,99585-9$
 $15,223$
 057
 $15,280$

$\lambda + R = 2,74780$
 $\sum ()^2 = 5,49560$
 $()^2 = 313029$
 22500
 $\sum 335529 = 5,52573$
 $\sum v = 2,76287$
 $\sum a = 2,17609$
 $\sum a^2 v = 4,93896$
 $\sum a^2 v = 86888$
 $\lambda + R = 2,74780$
 $\sum 6,5 = 0,87224$
 $3,56004$
 $\sum sm \epsilon = 0,52330-1$
 $3,08334$
 1212
 86888
 $\sum 88100 = 4,94498$
 $5,52573$
 $0,41925-1$

$0,91862-1$
 $0,04660-1$
 $0,96522-2$
 $0,09230$
 $1,94800$
 $\sum 1,85570 = 0,26851$
 $\sum v = 0,13426$
 $v = 1,36225$
 $v = 0,95272$
 $\sum 0,40953 = 0,61228-1$
 $\sum sm \epsilon = 0,52330$
 $0,13558-1$
 37096
 $0,26462-2$
 $0,13558-1$
 18548
 $0,95010-2$

$\beta - \gamma = 5,114$
 $19,491$
 $24,605$
 $3,950$
 $20,656$
 $0,66686-1$
 $54,782$
 $0,11939$
 $1,316$
 $1,317$

Temp 16,1

$sx = 2,45423$
 $2,84454$
 $0,60969-1$
 $3,63949$
 $0,97020-5$
 $1,11327$
 $0,08347-2$
 $14,747$
 069
 $14,816$

$3,56000$
 $\sum sm \epsilon = 0,61086-1$
 $3,17086$
 1482
 86888
 $\sum 85406 = 4,93149$
 $5,52573$
 $0,40576-1$
 $\epsilon = 24,091$
 $4,154$
 $28,245$
 $7,408$
 $20,837$
 $\lambda / n = 0,60969$
 14479
 $0,75448$
 55110
 $0,20338$

$0,91862-1$
 $0,22172-1$
 $0,14034-1$
 $0,13815$
 $1,94800$
 $\sum 1,80985 = 0,25764$
 $\sum v = 0,12882$
 $v = 1,34530$
 $v = 0,92836$
 $\sum 0,41694 = 0,62007-1$
 $\sum sm \epsilon = 0,61086$
 $0,23093-1$
 37096
 $0,85997-2$

Temp = 94,6

$sx = 2,51175$
 $2,84454$
 $0,66721-1$
 $3,63949$
 $0,02772-4$
 $1,11327$
 $0,14099-3$
 $15,308$
 079
 $15,387$

$3,56000$
 $\sum sm \epsilon = 0,66834-1$
 $3,22834$
 1692
 86888
 85196
 $\sum 88580 = 4,94734$
 $5,52573$
 $0,42161-1$
 $27,772$
 $4,825$
 $32,597$
 $7,694$
 $24,903$
 $\lambda / n = 0,66721-1$
 14479
 $0,87200-1$
 62437
 $0,18763$

$81200-1$
 71397
 $14 = 09803$
 $1,253 = n$
 $0,91862-1$
 $0,33668-1$
 $0,25530-1$
 $0,18001$
 $1,94800$
 $\sum 1,76799 = 0,24748$
 $\sum v = 0,12374$
 $v = 0,13297$
 $v = 0,90552$
 $v = 1,32967$
 $\sum 0,42415 = 0,62752-1$
 $\sum sm \epsilon = 0,66834-1$
 $0,29586-1$
 37096
 $0,92490-2$
 $7,408$
 $27,772$
 $35,180$
 $4,011$
 $31,169$
 $0,29586-1$
 18548
 $0,11038-1$

$88370 = 4,94470$
 $5,52573$
 $0,42057-1$

$28,245$
 $7,635$
 $20,610$
 λ / n
 $0,75448$
 54655
 20793

$23093-1$
 18548
 $0,04545-1$
 $6,375$
 $24,091$
 $30,466$
 $3,9867$
 23058
 $26,479$
 $0,60969$
 $0,75448-1$
 64921
 $0,10527$
 $1,274$

Ammoniak kórsimulatója

$R = 12,98$

$2R \cdot r = 9,30$

$a = 75,0 \text{ mm.}$
 $R = 692,7$
 $l = 562,5 \text{ mm.}$
 $\frac{13,0}{13,0}$
 $l \cdot R = 575,5$

$\{l+R\} = 2,76020$
 $\{l \cdot R\} = 5,52040$
 $\{l \cdot R\} = 331439$
 $a^2 = 5625$
 $2337064 = 5,52771$
 $\sqrt{\quad} = 2,76386$
 $\{a\} = 1,87506$
 $\{aV\} = 4,63892$

$a\sqrt{\quad} = 43542$
 $\{a \cdot (l \cdot R)\} = 5,52771$
 $\{m_{13}\} = 0,18548$
 $\{m_{13}^2\} = 0,37096$

30103
 $\{R\} = 1,11327$
 $\{R^2\} = 0,96848$
 $\frac{1}{R} = 0,14479$
 $\left(\frac{R}{l}\right)^2 = 1,94800$

$x = 460,2$
 $R = 692,7$
 $\{x\} = 2,66295$
 $\{R\} = 2,84055$
 $\{m_{13}\} = 0,82240 - 1$
 $\{8340\} = 3,63749$
 $\frac{0,18491 - 4}{0,29818 - 3}$

$\{l+R\} = 2,76020$
 $\{R\} = 1,11327$
 $\frac{3,87347}{3,69684}$
 $\{m_{13}\} = 0,82337 - 1$

$\left(\frac{R}{l}\right)^2 = 0,28958$
 $\{m_{13}\} = 0,37096$
 $\frac{0,91862 - 1}{0,56536 - 1}$
 $\{m_{13}^2\} = 0,64674 - 1$

$\frac{8,276}{114}$
 $\frac{8,390}{8,390}$

$\frac{4976}{43542}$
 $\frac{248518}{5,52771}$
 $\frac{4,68590}{0,15819 - 1}$

$\frac{0,36758}{1,94800}$
 $\frac{1,58042}{1,94800}$
 $\frac{0,63242}{0,99939}$
 $\frac{0,80100 - 1}{0,90050}$
 $\frac{1,25715}{0,79524}$
 $\frac{0,46191}{0,66456 - 1}$

$\rho - \gamma = 7,522$
 $\frac{41,747}{49,269}$
 $\frac{4,195}{45,074}$

$\frac{x}{R} = 0,82240 - 1$
 $\frac{R}{l} = 0,14479$
 $\frac{0,96719 - 1}{0,85008}$
 $\{m_{13}\} = 0,11715$

$\frac{0,48793 - 1}{0,37096}$
 $\frac{0,11697 - 1}{92,7}$
 $\frac{99,1}{11,8}$
 $95,9$

$\{x\} = 2,69966$
 $\{R\} = 2,84255$
 $\{m_{13}\} = 0,85711 - 1$
 $\frac{3,63749}{0,21962 - 4}$
 $\frac{1,11327}{0,33289 - 3}$

$\{R\} = 0,81224$
 $\{R \cdot l\} = 2,75043$
 $\frac{0,06181 - 2}{0,85711 - 1}$
 $\frac{0,91891 - 3}{0,474}$
 $\frac{123}{4,597}$

$\left(\frac{R}{l}\right)^2 = 0,91862 - 1$
 $\{m_{13}\} = 0,71422 - 1$
 $\frac{0,63284 - 1}{0,42938}$
 $\frac{1,94800}{1,51862} = 0,18145$
 $\frac{0,57062}{0,09073}$
 $\frac{0,55635 - 1}{0,77818}$

$\rho - \gamma = 11,172$
 $\frac{46,147}{57,319}$
 $\frac{0,299}{57,020}$

$\frac{x}{R} = 0,85711 - 1$
 $\frac{14,979}{0,00190}$
 $\frac{92369}{6,07821}$

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 Könyvtára

$m = 1,197$

$\frac{0,63259}{0,85711 - 1}$
 $\frac{0,65823 - 1}{0,37096}$
 $\frac{0,28727 - 1}{92,7}$
 $\frac{99,1}{11,8}$
 $95,9$

$R = 699,1$
 $l = 562,5$
 $\frac{6,5}{569,0}$

$\{l+R\} = 2,75511$
 $\{l\}^2 = 5,51022$
 $\{l\} = 323777$
 $\frac{5625}{329402} = 5,51772$
 $\sqrt{\quad} = 2,75886$
 $\{a\} = 1,87506$
 $\{aV\} = 4,63392$
 $aV = 43045$

$\{l+R\} = 2,75511$
 $\{R\} = 0,84224$
 $\frac{3,56735}{0,82528 - 1}$
 $\frac{3,39263}{2400}$
 $\frac{43045}{40575}$

$\left(\frac{R}{l}\right)^2 = 0,91862 - 1$
 $\{m_{13}\} = 0,65056 - 1$
 $\frac{0,56918 - 1}{0,37083}$
 $\frac{0,62917}{1,94800}$
 $\frac{0,79875 - 1}{0,89938}$

$\{x\} = 2,66885$
 $\{R\} = 2,84454$
 $\frac{0,82431 - 1}{3,63749}$
 $\frac{0,18682 - 4}{1,11327}$
 $\frac{0,30009 - 3}{0,961}$

$\{20575\} = 4,60826$
 $\frac{5,51772}{0,09054 - 1}$
 $\frac{7,076}{115}$
 $\frac{6,961}{13,028}$

$\rho - \gamma = 8,457$
 $\frac{3,980}{41,858}$
 $\frac{53,1796}{54,886}$
 $\frac{1,610}{56,496}$

$\frac{0,37083}{1,94800}$
 $\frac{0,62917}{1,57717} = 0,19788$
 $\frac{0,79875}{0,09894}$
 $\frac{0,89938}{0,25586}$
 $\frac{0,73920}{0,51666} = 0,71320 - 1$
 $\frac{0,82528 - 1}{0,53848 - 1}$
 $\frac{37096}{0,16752 - 1}$

$\frac{x}{R} = 0,82431$
 $\frac{14479}{0,96910 - 1}$
 $\frac{20683}{66227}$

$\frac{53848 - 1}{18548}$
 $\frac{35300}{132,2}$
 $\frac{0,96910}{92109}$
 $\frac{0,04801}{1,117}$

19,8° - ha való Rampabacov's n Ullmadi's { 589,3 } 558,9 - ha.

di 30,2) 698,0 vi 51,7 10,2 701,5 di 30,0) 699,0
8,2)
vi 48,9) 699,2 di 30,2) 699,0 49,3) 699,2
9,7)

Restiko Ullmadi 588,6 mainara

~~49,7~~
di 31,0) 690,7 vi 43,9) 692,9 di 30,9) 692,3 vi 44,3) 692,9
1,7)
11,0)
3,2)
11,4)
29,3) 692,6
1,9)

Ammonak

Levegő 19,8

Edények

$\frac{530,4}{469,6}$

$$\begin{aligned} 5530,4 &= 2,72460 \\ 8469,6 &= 2,67173 \\ \hline &0,05287 \\ &30703 \\ \hline &0,35390 \end{aligned}$$

$$\begin{aligned} 2,2599 \\ 276 \\ \hline 2,2323 \end{aligned}$$

$$\begin{aligned} 8,4002457 \times 20 \\ 8,4004914 \\ \hline 8,404865 \end{aligned}$$

$\omega_0 = 2,1287$

$$\begin{aligned} 1+at &= 1,04865 \\ \beta(1+at) &= 0,02063 \\ \gamma\omega_t &= 0,34875 \\ \gamma\omega_0 &= 0,32812 \end{aligned}$$

$$\begin{aligned} 5585,0 &= 2,76716 \\ 8415,0 &= 2,61805 \\ \hline &0,14911 \\ &30703 \\ \hline &0,45014 \end{aligned}$$

$$\begin{aligned} 2,8493 \\ 276 \\ \hline 2,7917 \\ 2,1287 \\ \hline 0,6630 = \omega_t - \omega_0 \end{aligned}$$

$$\begin{aligned} \gamma\omega_t - \omega_0 &= 0,82151 - 1 \\ \gamma\omega_0 &= 0,32812 \\ \hline &0,49339 - 1 \\ &39041 - 3 \end{aligned}$$

$$\begin{aligned} \beta t &= 2,10298 \\ 0,3115 \\ 0095 \\ \hline 0,3210 \end{aligned}$$

$$\begin{aligned} H &= 4,20596 \\ \beta D &= \frac{77379-7}{0,97975-3} \end{aligned}$$

$$\begin{aligned} 95 \times 6,8 \\ 570 \\ 760 \\ \hline 6460 : 176 = 3,7 \\ 528 \\ \hline 1180 \end{aligned}$$

$$\begin{aligned} t &= 126,8 \\ t &= 120,0 \\ t &= 123,1 \end{aligned}$$

$$\begin{aligned} \alpha t + \beta t^2 &= 0,3210 \\ &= 0,3034 \\ &= 0,3115 \end{aligned}$$

$\frac{\omega_t}{\omega_0} - 1 = 0,3115$

$$\begin{aligned} 8120 &= 2,07918 & 4,15836 & 0,2948 \\ 39041-3 & & 77379-7 & 0086 \\ \hline 0,46959-1 & & 93215-3 & 0,3034 \end{aligned}$$

$$\begin{aligned} 0,0095 \times 6,8 \\ 0,0176 \end{aligned}$$

$$\begin{aligned} 5123,1 &= 2,09026 & 4,18052 \\ 39041-3 & & 77379-7 \\ \hline 0,48067-3 & & 0,95431-3 \\ 0,3025 \\ 0090 \\ \hline 3115 \end{aligned}$$

$$\begin{aligned} 5589,3 &= 2,77034 \\ 8410,7 &= 2,61352 \\ \hline &0,15682 \end{aligned}$$

$$\begin{aligned} 1,4349 \\ 2,8698 \\ \hline 276 \\ 2,8422 \\ 1287 \end{aligned}$$

$$\begin{aligned} \gamma &0,7135 = 0,85339 - 1 \\ &32872 \\ \gamma \frac{\omega_t - \omega_0}{\omega_0} &= 0,52527 - 1 \\ &39041 - 3 \\ \hline &2,13486 \end{aligned}$$

$$\begin{aligned} 0,3352 \\ 0111 \\ \hline 0,3463 \end{aligned}$$

$$\begin{aligned} t &= 136,4 \\ &132,4 \\ &132,2 \end{aligned}$$

$\frac{\omega_t}{\omega_0} - 1 = 0,3352$

$$\begin{aligned} \alpha t + \beta t^2 &= 0,3463 \\ &= 0,3357 \\ &= 0,3352 \end{aligned}$$

$\frac{5}{106} \times 4 \quad 20:106 = 0,2$

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$$\begin{aligned} 4,26972 & & 5134,4 &= 2,12189 & 4,24378 & 0,3253 \\ 77379-7 & & 39041-3 & & 77379-7 & 104 \\ \hline 0,04351-2 & & 0,51230-1 & & 0,01757-2 & 0,3357 \end{aligned}$$

$$\begin{aligned} 5587,1 &= 2,76871 \\ 8412,9 &= 2,62584 \\ \hline &0,15287 \\ &30207 \\ \hline &0,45384 \end{aligned}$$

$$\begin{aligned} 2,8303 \\ 276 \\ \hline 2,8027 \\ 1287 \end{aligned}$$

$$\begin{aligned} \gamma &0,6740 = 0,82886 - 1 \\ &32872 \\ &0,50054 - 1 \\ &39041 \\ \hline &0,11013 \end{aligned}$$

$$\begin{aligned} 3,7 \\ 4,2 \\ 3,9 \\ 126,8 \\ 128,9 \\ 136,4 \\ 9,6 \\ 4,8 \\ 131,6 \\ 3,9 \\ 127,7 \end{aligned}$$

Ammoniak törlésjegyzék

1893. június 1. reggel 11h. h

hőmérséklet 20,0 Erlenszám 576,5

X meghatározás

dei 42,9) 318,3	vi 1,2) 318,7	dei 45,5) 318,2	vi 5,8) 318,7
dei 47,8) 317,2	vi 5,0) 318,0	dei 47,8) 317,3	vi 5,4) 318,4
dei 47,4) 318,4	vi 5,8) 318,6	dei 47,0) 318,7	vi 5,4) 318,4

hőmérséklet 20,2 Erlenszám 576,5

június 2. reggel kb. 30m.

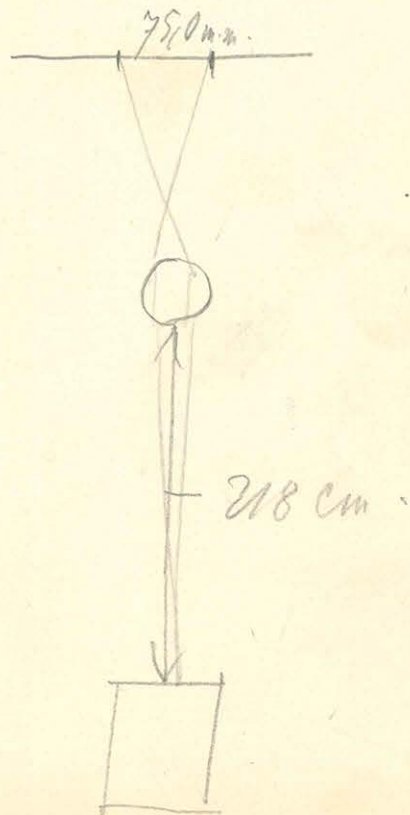
hőmérséklet 19,6 Erlenszám 502,2

X meghatározás

dei 9,7) 165,9	vi 55,3) 165,9	dei 9,7) 166,3	vi 55,7) 166,2
dei 9,6) 166,3	vi 55,9) 166,1	dei 9,8) 166,2	vi 56,0) 166,1

hőmérséklet 19,6 Erlenszám 502,2

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52

22

Vy ammoinaktos esö

Temp = 19,8 Ellenallas = 530,3

X
 di (52,0) 140,8 12,5) 140,7 51,8) 141,0 12,5) 140,7
 17,8 51,8 12,8 51,8 =

51,8) 141,1 -12,7) 140,8
 12,9 51,9

Temp 19,8 Ellenallas 530,4

Vyre oineallisa

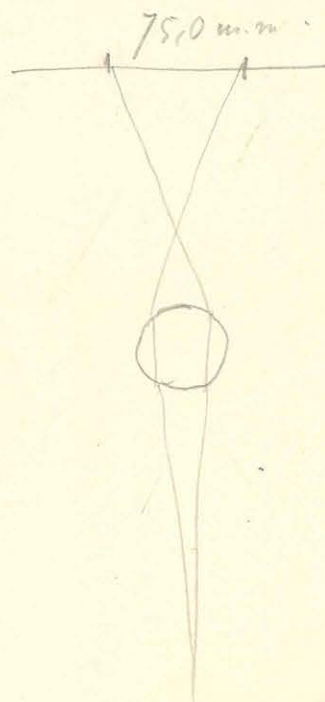
Temp 18,3 Ellenallas 529,5

1893. jinnis 3.
 vuor 7h.30

X
 di 57,1) 139,9 17,4) 140,5 di 57,1) 140,1 17,0) 140,1
 17,0 56,9 17,2 56,9

57,0) 140,5 17,5) 140,5 57,2) 140,4 17,5) 140,5
 17,5 57,0 17,6 57,0

Temp 18,3 Ellenallas 529,5



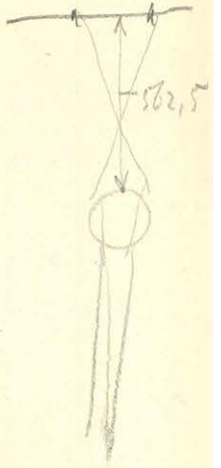
Ellenally 585,0

detunda 7h 30

den 46,3) 460,0 vin 26,0) 460,0 den 46,0) 460,2
26,3

den 26,5) 460,5 vin 26,0) 460,0
46,0 27,0

Ellenally 589,0 temp = 123,1



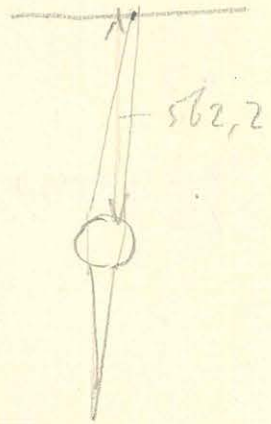
Ellenally 587,1

den 15,9) 500,1 vin 37,0) 500,8 15,8) 500,8 36,7) 500,8
36,0

16,3) 500,7 37,0) 500,8
37,0 16,2

Antikvariat

temp = 127,7



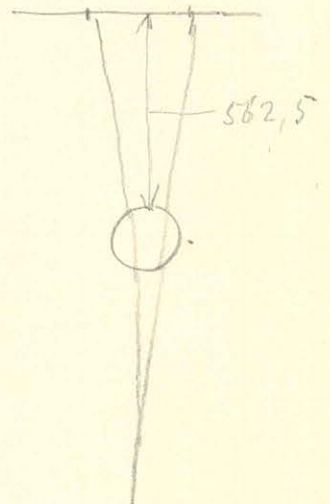
Ellenally 589,3

ejt 11h 0

den 28,0) 466,5 vin 15,0) 466,7 28,5) 466,8 vin 13,3) 466,3
14,5 28,3 15,0 27,0

Kontinuerlig

temp = 132,2



Temp = 19,8 Ellenarts = 570,4

6,2) 232,3
58,5

58,7) 232,7
6,0

6,0) 232,6
58,6

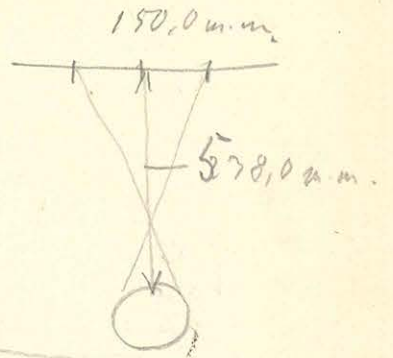
58,7) 232,7
6,0

6,0) 232,5
58,5

58,6) 232,8
5,8

Temp 20,0 Ellenarts = 570,4

Temp = 19,8



Ellenarts = 568,5

40,0) 324,8
4,8

4,8) 325,0
39,8

40,6) 324,6
4,6

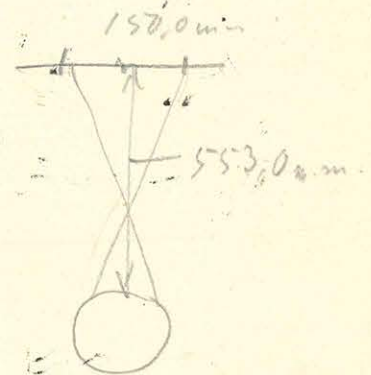
4,7) 324,9
39,8

39,7) 324,9
4,6

4,6) 324,8
39,8

Ellenarts = 568,5

Temp = 94,6



Ellenarts = 558,9

7,6) 284,5
51,5

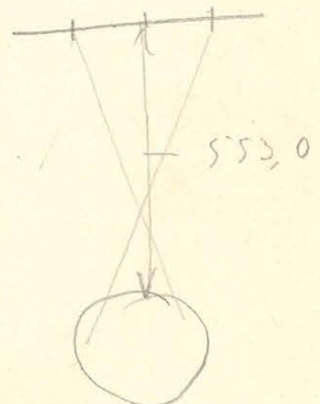
51,7) 284,6
7,1

7,3) 284,6
51,9

52,0) 284,7
7,3

Temp = 76,1

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Tartalomjegyzék felmutatás

Temp 123,1

a = 37,5

$S(1+R) = 2,75511$

$(1)^2 = 323777$

$a^2 = 1406$

$325183 = 5,51213$

$S V = 2,75607$

$1a = 1,57403$

$1aV = 4,33010$

aV = 21385

2459
21385
 $23844 = 4,37738$
5,51213
0,86525-2

49,269
2,100
47,109

0,96719
86789
0,10230 = f_n

$n = 1,266$

Temp 19,8

a = 75,0

$\frac{1}{i} = \frac{22,825}{3,956}$
18,1809

0,66686-1
50475
0,15711 = f_n

$n = 1,434$

$(1+R)^2 = 313029$

5625

$318654 = 5,50332$

$S V = 2,75166$

$1a = 1,87506$

4,62672

aV = 42337

1212
42337
 $43549 = 4,63898$
5,50332
0,13566-1
7,855
57
7,912

Temp 132,2

a = 37,5

2470
21385
 $518915 = 4,27681$
5,51213
0,76468-2

3,335
115
3,220
 $\beta \pm \gamma = 8,457$
 $\epsilon = 41,858$
 $\frac{1}{i} = \frac{1,610}{51,925}$

0,96910-1
89609
0,07301

$n = 1,183$

Temp 76,1

1482
42337
 $43819 = 4,64166$
5,50332
0,13834-1

7,904
69
7,973
 $\frac{1}{i} = \frac{28,245}{3,987}$
24,258

0,75448
07368
0,19080 = f_n $n = 1,383$

1692
42337
 $44029 = 4,64374$
5,50332
0,14042-1

7,942
79
8,021
 $\frac{1}{i} = \frac{32,597}{4,071}$
28,586

0,81200
67988
0,13212 = f_n $n =$

$0,053 : 56,3 = 0,000941$
5067
2330
2252
780

$0,027 : 18,5 = 0,001459$
185
850
240
1100
925
1750

$0,027 : 4,6 = 0,005849$
230
480
368
320
276
440

$0,090 : 28,5 = 0,003158$
855
450
285
1650
1425
2250

$0,056 : 4,5 = 0,01244$
45
110
90
200
180
20

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Benzolab eső 1. Benzol.

Víz

23,0) 277,2 0,2) 278,0 22,5) 277,7 0,2) 278,0
 0,2)
 22,2) 278,1 0,2) 278,0
 0,3)

20% Glycerin

53,8) 254,8 39,0) 254,9 53,8) 254,8
 39,0)

40% Glycerin

37,8) 235,4 23,2) 235,2 28,0) 235,2
 33,2)
 23,2) 235,2
 28,0)

60% Glycerin

47,0) 220,8 27,1) 220,3 47,1) 220,3 27,1) 220,2
 27,8) 46,8) 27,3) 46,9)

80% Glycerin

56,2) 206,6 22,6) 206,8 55,9) 206,9
 22,8)
 22,3) 206,7
 55,6)

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Glycerin

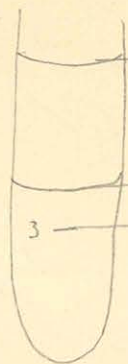
7,4) 195,3 22,8) 195,5 7,4) 195,2
 22,7)
 22,6) 195,2
 7,4)

Benzol

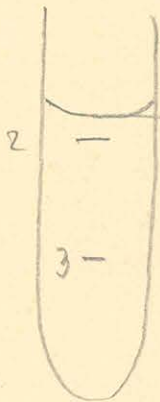
21,3) 182,6 24,1) 182,4 21,4) 182,7 24,1) 182,7
 23,9) 21,7) 21,2) 21,4)



81, 92 81, 92
80, 64 80, 64



100, 99
81, 92
80, 64
19, 07



99, 46 99, 99
99, 25
79, 20 79, 20

este vol. 45

Ellenarta 522,0 Temp: 20,2

den 23,9) 182,1
26,0

vin 26,0) 182,4
23,6

23,8) 182,2
26,0

25,8) 152,1
23,7

t = 20°2 n = 1,498

P2

10,8) 876,4
47,2

26,7) 876,7
50,0

10,9) 876,4
47,3

26,8) 876,5
50,3

Antikvar regel

Ellenarta 548,0

den 15,8) 193,2
29,0

vin 29,4) 193,4
16,0

16,0) 193,4
29,4

29,3) 193,0
16,0

n = 1,470

t = 66,0

diti/h.

Ellenarta 622,5

vin 11,1) 279,3
31,8

den 31,7) 279,2
10,9

vin 11,0) 279,0
32,0

den 31,8) 279,2
11,0

d. u.

2h. 31m

Ellenarta 626,6

t = 238,4

24,5) 295,5
20,0

21,3) 296,3
25,0

24,5) 295,5
20,0

20,0) 295,0
25,0

Ellenarta 626,6

3h. 45m

Ellenarta 626,2

den 26,0) 292,7
18,7

vin 19,0) 292,2
26,7

den 26,2) 292,4
18,6

vin 18,2) 292,2
26,0

n = 1,317

t = 237,4

újra 2h. 20m.
 52,0) 246,1
 58,1

Ellenért 608,0
 58,0) 286,2
 51,8

56,9) 286,3
 58,2

58,0) 246,2
 51,8

$n = 1,371$

$t = 193,0$

újra 9h.

Ellenért 584,0

$t = 138,8$

6,4) 214,7
 41,1

41,1) 214,8
 6,3

6,6) 214,9
 41,5

41,6) 214,8
 6,8

$n = 1,422$

Kritikus 642,0 ha 279,0

291 re mit kritikus
 1898 átlag. m. m. m.
 20°2

	t	n	$\frac{d_n}{n}$
20°2	20°2	1,498	0,028
68°0	66°0	1,470	0,048
144°0	138°8	1,422	0,051
200°4	193°0	1,371	0,059
246,2	237,4	1,317	
	279,0	Kritikus	

MAGYAR TUDOMÁNYOS AKADÉMIA KÖNYVTÁRA

1917 átlag 277,4 $\frac{n^2-1}{n} = 0,734$

1898 átlag 20°2 $\frac{n^2-1}{n} = 1,244$

$\frac{n^2-1}{n} = 1,695$

$\frac{(n^2-1)_{20}}{(n^2-1)_{277}} = 1,695$

átlag 193°0 $\frac{n^2-1}{n} = 0,880$

$\frac{(n^2-1)_{20}}{(n^2-1)_{193}} = 1,414$

átlag 229° $\frac{n^2-1}{n} = 0,949$

átlag 15°4 $\frac{n^2-1}{n} = 1,644$

$\frac{n^2-1}{n} = 1,732$

$\frac{(n^2-1)_{15}}{(n^2-1)_{229}} = 1,729$

átlag 185,4 $\frac{n^2-1}{n} = 1,468$

$\frac{(n^2-1)_{15}}{(n^2-1)_{185}} = 1,420$

572 71767
 478 67943
 03824 10921

8642 = 80754
 758 55388
 0,25366 1,7933
 140
 (1,7793 =

1780 = 2,44716 4,89432
 39041-3 77379-2
 0,83757-1 0,66811-2

0,6879
 0466
 0,7345

1270 43136 86272
 39041 77379
 82177 63651

6434
 433
 7067

73878 1,1662
 65514
 08364 12124
 140
 1,1984

07862
 01184
 06678

170 = 1,84510 3,69020
 39041-3 77379-2
 0,23551-1 0,46399-2

1720
 29
 1749

165 = 81291 62582
 39041 77379
 20332 39961

1597
 75
 1,7622

4 0276
 79699
 57217
 22482 16781
 140
 1,6641

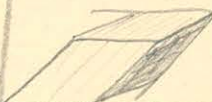
22118 1,6193
 04184
 30934

1240 = 2,38021 4,76042
 39041-3 77379-2
 0,22062-1 0,53421-2

5897
 0342
 6239

1250 = 2,36173 4,72346
 39041-3 77379
 75214 49725

5651
 314
 5965



1,78390 5
 59329 15510
 19061 140
 1,5370 1,4956

18667
 01184
 17483

195 = 2,29003 4,58006
 39041 77379
 68044 0,35385-2

4791
 0226
 1,5017



Vin	1,334	) 25	- 278,0	) 23,2	917.
20% glyc.	1,359	) 27,5	- 254,8	) 19,6	915
40% "	1,386	) 25,5	- 235,2	) 14,9	909
60% "	1,412	) 25	- 220,2	) 13,6	907
80% "	1,437	) 27	- 206,7	) 11,4	903
Glycer "	1,464	) 34	- 195,2	) 12,7	906.
Benzol "	1,498	-	182,6	-	912

Ms 5905/22

Buborék és csepp

szepes

188... övekbat

* LOYAR
HUNGARIAN ACADEMY
KÖNYVTÁRA

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{a^3}{\sqrt{2}u} (1 + 3c \frac{a}{u_0}) \int \sin \frac{\delta}{2} \cos \delta d\delta + \frac{a^3}{\sqrt{2}u} (1 + c \frac{a}{u_0}) \int \sin \frac{\delta}{2} d\delta$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{a^3}{\sqrt{2}u} \int \sin \frac{\delta}{2} \cos \delta d\delta + \frac{a^3}{\sqrt{2}u} \int \sin \frac{\delta}{2} d\delta + \frac{a^3}{\sqrt{2}u} \cdot 2c \frac{a}{u_0} \int \sin \frac{\delta}{2} \cos \delta d\delta + \frac{a^3}{\sqrt{2}u} c \frac{a}{u_0} \int \sin \frac{\delta}{2} d\delta$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{4}{3} \frac{a^3}{u\sqrt{2}} (1 - \cos^2 \frac{\delta}{2}) + \frac{a^3}{\sqrt{2}u} \cdot 2c \frac{a}{u_0} \int \sin \frac{\delta}{2} \cos \delta d\delta + \frac{a^3}{\sqrt{2}u} c \frac{a}{u_0} \int \sin \frac{\delta}{2} d\delta$$

$$\int \sin \frac{\delta}{2} \cos \delta d\delta = \int \sin \frac{\delta}{2} d\delta - 2 \int \sin^3 \frac{\delta}{2} d\delta = \left(-2 \cos \frac{\delta}{2} + \frac{4}{3} \sin^2 \frac{\delta}{2} \cos \frac{\delta}{2} + \frac{8}{3} \cos \frac{\delta}{2} \right) + \sin \frac{\delta}{2} - \frac{2}{3} \sin^3 \frac{\delta}{2} + \frac{4}{3} \sin \frac{\delta}{2} \cos^2 \frac{\delta}{2} - \frac{4}{3} \sin \frac{\delta}{2}$$

$$\cos \delta = \cos^2 \frac{\delta}{2} - \sin^2 \frac{\delta}{2} = 1 - 2 \sin^2 \frac{\delta}{2}$$

$$2 \sin^2 \frac{\delta}{2} (1 - \cos \delta) = 2 - \cos \delta$$

$$= \frac{2}{3} \cos \frac{\delta}{2} (1 + 2 \sin^2 \frac{\delta}{2}) = \frac{2}{3} \cos \frac{\delta}{2} (2 - \cos \delta)$$

$$\int_0^{\delta} \sin \frac{\delta}{2} \cos \delta d\delta = \frac{2}{3} \cos \frac{\delta}{2} (2 - \cos \delta) - \frac{2}{3}$$

$$\int \sin \frac{\delta}{2} \cos \delta = -2 \cos \frac{\delta}{2} = 2 - 2 \cos \frac{\delta}{2} = 2(1 - \cos \frac{\delta}{2})$$

$$\frac{6}{3} \cos \frac{\delta}{2} (2 - \cos \delta) - \frac{6}{3} + \frac{4}{3} - 2 \cos \frac{\delta}{2}$$

$$\frac{2}{3} \left(\frac{2}{3} (1 + \cos \frac{\delta}{2}) - \frac{4}{3} \cos \frac{\delta}{2} \cos \delta \right) - \frac{4}{3} \cos \frac{\delta}{2} \cos \delta$$

$$= \frac{2}{3} + \frac{2}{3} \cos \frac{\delta}{2} (1 - 2 \cos \delta) = 1 - 2 \cos^2 \frac{\delta}{2} + 2 \sin^2 \frac{\delta}{2}$$

$$= 2 \cos^2 \frac{\delta}{2} - 1$$

$$+ 2 \cdot 2 \cos \delta = 4 \cos^2 \frac{\delta}{2} - 2$$

$$3 - 4 \cos^2 \frac{\delta}{2}$$

$$3 \sin^2 \frac{\delta}{2} - \cos^2 \frac{\delta}{2}$$

$$2 \cos^2 \frac{\delta}{2}$$

$$- \frac{a^3}{\sqrt{2}u} \cdot c \frac{a}{u_0} 4 \cos \delta \cos \frac{\delta}{2}$$

MAOYAK
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

$$z' - z = a\sqrt{2}(\sin \frac{\delta'}{2} - \sin \frac{\delta}{2}) + \frac{a^2}{3} \left\{ \frac{1}{u'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin \frac{\delta'}{2}} - \frac{1}{u} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin \frac{\delta}{2}} \right\} + \frac{c}{u_0^2} \frac{a^2}{2} (\sin \delta' - \sin \delta) - \frac{c^2 a^2}{\sqrt{2} u_0^2} (\sin \frac{\delta'}{2} - \sin \frac{\delta}{2})$$

$$a = \frac{z' - z}{\sqrt{2}(\sin \frac{\delta'}{2} - \sin \frac{\delta}{2}) + \frac{a^2}{3} \left\{ \frac{1}{u'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin \frac{\delta'}{2}} - \frac{1}{u} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin \frac{\delta}{2}} \right\} + \frac{c}{2} \frac{a^2}{u_0^2} (\sin \delta' - \sin \delta) - \frac{c^2 a^2}{\sqrt{2} u_0^2} (\sin \frac{\delta'}{2} - \sin \frac{\delta}{2})}$$

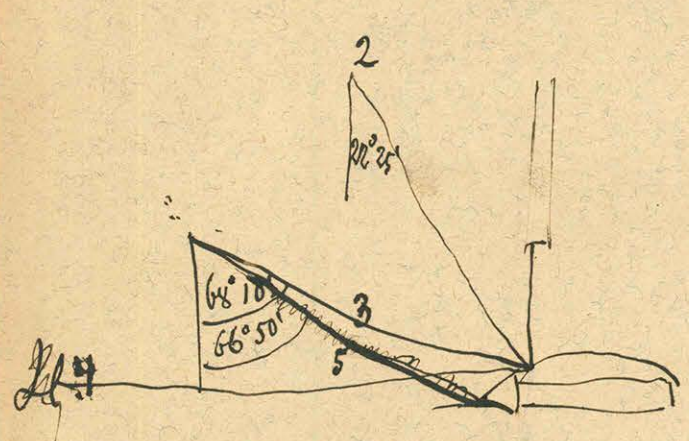
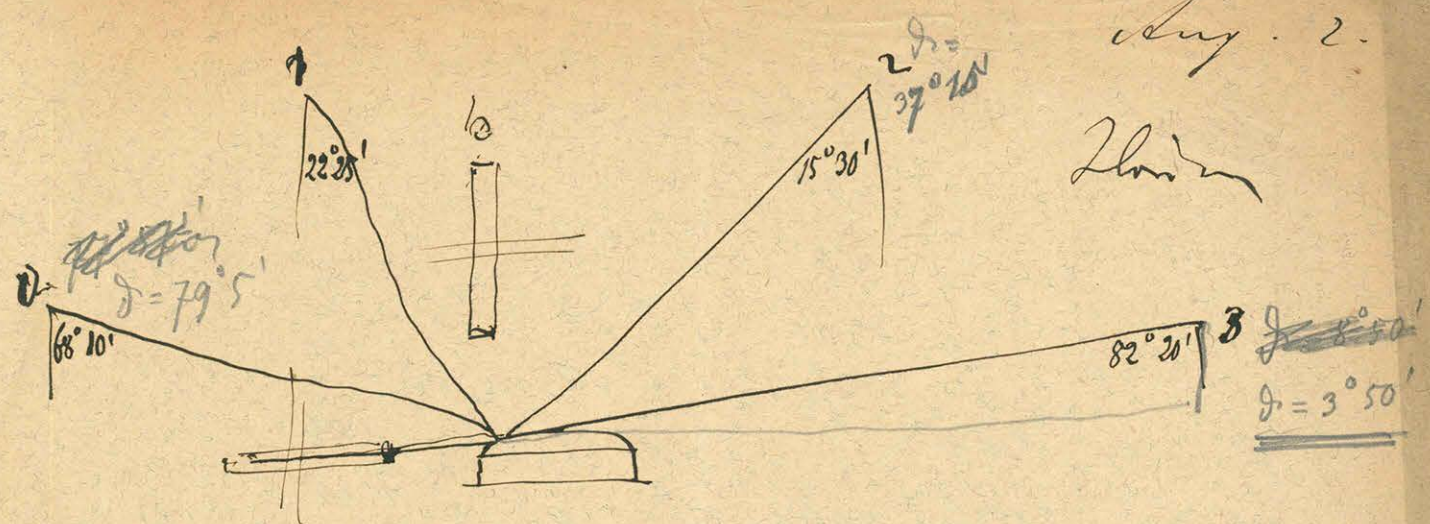
$$\frac{2a^2 \cos^2 \frac{\delta}{4} - 1}{24u \cos^2 \frac{\delta}{4}} = \frac{c^2 \cos^2 \frac{\delta}{2}}{24u \cos^2 \frac{\delta}{4}}$$

$$u' - u$$

$$a = \frac{z' - z}{\sqrt{2}(\sin \frac{\delta'}{2} - \sin \frac{\delta}{2}) + \frac{1}{2} \log \frac{t_{\frac{\delta'}{4}}}{t_{\frac{\delta}{4}}}} + \frac{a^2}{4u'} \log t_{\frac{\delta'}{4}} - \frac{a^2}{4u} \log t_{\frac{\delta}{4}} + \frac{a^2}{12u'} - \frac{c^2}{12u} - \frac{a}{24} \left(\frac{1}{u'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin \frac{\delta'}{2}} - \frac{1}{u} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin \frac{\delta}{2}} \right) + \frac{c}{6} \left(\frac{\cos \delta'}{u'} - \frac{\cos \delta}{u} \right) - \frac{c^2 a^2}{\sqrt{2} u_0^2} \left(\cos \frac{\delta'}{2} - \cos \frac{\delta}{2} + \frac{1}{2} \log \frac{t_{\frac{\delta'}{4}}}{t_{\frac{\delta}{4}}} \right)$$

Aug. 2.

Zludin



77 40
 172° 20'
 86' 10' 105 20'
 15° 30' 52 45'
 37 15'
 74 90'
 79° 5' 37 15'
 10 55' ~~37 15'~~
 34° 5'
 10° 25'
 77° 57'
 21° 50'
 10° 55'
 79° 5'

Vertikalis.

$\delta_5 = 56^\circ 35'$
 $\delta_4 = 34^\circ 5'$
 $\delta_2 = 11^\circ 12'$

5.	227	1120	
4.	107		
3.	54	197	
2.	195	141	891

0,6867256

189) 1132
 71) 1184
 255
 145) 1140 890

149) 110
 2) 180
 182) 180
 59) 127 877.

4773
 1689
 5462
 122
 229
 689
 426
 492

Urcimatis

3.	43	1207	59	114
2.	44	1106	45	106
1.	50	1110	29	106
0.	62	1110	40	199

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 HUDOMTANODI AKADEMIA
 KÖNYVTÁRA

0) 197
 97) 104
 1) 110
 11

6) 194
 0) 101
 1) 111
 12) 111

4773
 1689
 5462
 122
 229
 689
 426
 492

Vent.

Horiz

A capped Kincblive:

44,5
16
44,66

5.	222	)	126
4.	108	)	193
3.	51	)	156
2.	207	)	906

3.	0	)	200
2.	2	)	106
1.	9	)	110
0.	22)	

189	)	135
74	)	185
9	)	151
162	)	901

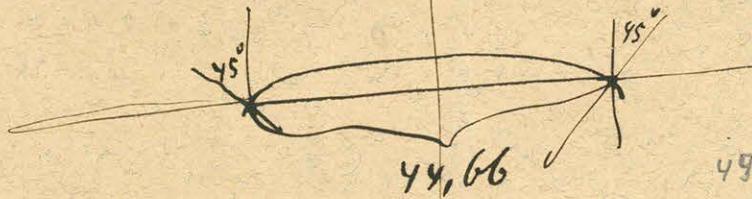
71	)	207
72	)	100
75	)	115
90)	

172	)	170
52	)	186
238	)	141
129	)	891

82	)	199
81	)	103
84	)	114
98)	

160	)	128
38	)	187
225	)	137
112)	

70	)	199
69	)	102,5
71,5	)	112
83,5)	



A vertikali rön horisontali
 kääntö a 45° kääntä röntöl

28	)	722
170)	

25	)	725
170)	

291)	
113)	

Felülírás után 1 órával:

5. 110
 4. 0) 127
 3. 180) 180
 2. 270) 840

101
 228) 127
 168) 180
 252) 825

96
 201) 125
 161) 180
 244) 822

91
 225) 124
 158) 180
 229) 81

3. 61,5) 186,5
 2. 48)
 1. 46) 98
 0 50) 107

41) 190
 31)
 27) 96
 22) 106

72) 188
 61)
 58) 97
 64) 106

6 6) 187,5
~~47,5~~ 92,5)
 98 91,5) 98
 97,5) 106

A csapp álmérsége a 45° hajlású rések mel-
 letében:

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 HITTUDOMÁNYI AKADEMIA
 KÖNYVTÁRA

101,88 }
 101,92 } középérték 101,90 m. m.

50,95

A rögzék teljesén megfigyelték a reggeli kitéréssel.

Aug. 2. an.

Higany a nagy gyűrűben.

Mérések aronmal a felső részén:

Vent.

Hor.

5. 70)
 4. 210) 107
 3. 150) 190
 2. 40) 887

2. 24)
 2. 22) 199 x)
 1. 26) 100
 0. 49) 110

66)
 204) 128
 147) 190
 29) 882

24)
 22) 198
 26) 104 2.
 28) 112

65)
 202) 127
 144) 192
 21) 877

54)
 50) 196
 52) 102 4.
 60) 111

59)
 197) 128
 127) 190
 10) 870

25)
 20) 195
 21) 101 5.
 40,5) 109,5

70)
 206) 126
 144) 188
 12) 897

20)
 17) 197
 20) 100 3.
 20) 110

A vertikális víz hor. kávézó-
 ga a 45° hajlású részen:

27) 165 20) 168 15) 167
 192 188 182

Körérintés: 166,7

x) A mérés torrendje.
 (Leírás kösben 3 kiemelve)

Vent.

Hor.

5.	119		
4.	241	122	
3.	178	187	
2.	54	126	876

3.	67	194,5
2.	61,5	101,5
1.	60	112
0.	75	

	69	194
	60	101
	64	112
	76	

5.	102	98	
4.	224	126	
3.	160	186	
2.	20	120	870

3.	18	194
2.	12	101
1.	10	

Minister Dewan

3.	18	194
2.	12	101
1.	10	
0.	20	110

Kis csapó
 az utolsó 6 leülelés

1,2 = 891

2,0 = 327

906	326
907	320
891	316
887	315
876	309
870	312

890
877
906
907
891
887
876
870

316
292
326
320
316
315
309
312

$6 \overline{) 5331} = 888,5$
 59
 51
 30
 $u-u=1,777$

$6 \overline{) 1898} = 316,33$
 20
 $1897,98$
 $u-u=26$
 $u-u=26326$

$9 \overline{) 79,89} = 8,877$

$9 \overline{) 28,33} = 3,148$

88766,775,5
 798,89
 887,7

28323
 28332
 3148
 0,6296

Kis csapó

1,2 = 1,7755

$a_I = 2,4115$
 $a_{II} = 2,3198$
 $a_{III} = 2,3237$

2,0 = 0,6296

$a_I = 2,4129$
 $a_{II} = 2,3481$
 $a_{III} = 2,3498$

$u_{100} = 21 \text{ m.m.}$

$u_{100} = 22,3$

2,2,39

Nagy csapó

887	4387
882	0,8774
877	1,7548
870	
868	
840	1,7169
835	
833	
831	

$\frac{175}{171}$

$9 \overline{) 7726} = 858,99$
 52
 76
 40
 $772,596$

330	1642
331	0284
329	0,6568
328	
324	
317	32011
317	0,62622
315	
317	

$9 \overline{) 2908} = 323,11$
 20
 28
 10
 $2907,99$

$2,2955$
 $\frac{175}{171}$

1,2 = 1,7169

$u_{100} = 49,7$

2,0 = 0,6262

$u_{100} = 57$

$\frac{6568}{6262}$

$a_I = 2,3319$
 $a_{II} = 2,2948$
 $a_{III} = 2,2955$

$a_I = 2,3999$
 $a_{II} = 2,0715$
 $a_{III} = 2,0717$

MAGYAR
 TUDOMÁNYOS AKADÉMIA
 KÖNYVTÁRA

$$\begin{aligned} \delta_1 &= 11^\circ 12' & \cos \delta_1 &= 0,9809552 \\ \delta_2 &= 34^\circ 5' & \cos \delta_2 &= 0,8282234 \\ \delta_3 &= 56^\circ 35' & \cos \delta_3 &= 0,5507236 \end{aligned} \quad \left. \begin{aligned} \frac{\delta_1}{2} &= 5^\circ 36' & \cos \frac{\delta_1}{2} &= 0,9952274 \\ \frac{\delta_2}{2} &= 17^\circ 2\frac{1}{2}' & \cos \frac{\delta_2}{2} &= 0,9560918 \\ \frac{\delta_3}{2} &= 28^\circ 17\frac{1}{2}' & \cos \frac{\delta_3}{2} &= 0,8805462 \end{aligned} \right\}$$

$$u' - u = a\sqrt{2} \left(\cos \frac{\delta_1}{2} - \cos \frac{\delta_2}{2} + 1,151292 \log \frac{\frac{\delta_1}{4}}{\frac{\delta_2}{4}} \right) + \frac{a^2}{2a_0} \left(A + \frac{1}{5}(\cos \delta_1 - \cos \delta_2) + \frac{1}{24} \frac{\cos \frac{\delta_1}{2} - \cos \frac{\delta_2}{2}}{\cos^2 \frac{\delta_1}{4} \cos^2 \frac{\delta_2}{4}} \right)$$

$u_2 - u_1$ Kiszámítás

negatív.

$$\cos \frac{\delta_2}{2} - \cos \frac{\delta_1}{2} = \cancel{0,0608644} = 0,0391356 = -0,0391356$$

$$\begin{aligned} \frac{\delta_2}{4} &= 8^\circ 31\frac{1}{4}' & \log \frac{\delta_2}{4} &= 0,1755772 - 1 \\ \frac{\delta_1}{4} &= 2^\circ 48' & \log \frac{\delta_1}{4} &= 0,6893873 - 2 \end{aligned}$$

14227
 $\frac{14227}{7168} = 2150 \frac{3622}{5772}$
 0,6868060
 54
 559753

$$\begin{aligned} \log \frac{\frac{\delta_2}{4}}{\frac{\delta_1}{4}} &= 0,4861959 \\ \log 1,15129 &= 0,0611848 \\ \log \log \frac{\frac{\delta_2}{4}}{\frac{\delta_1}{4}} &= 0,6868114 \\ & \frac{0,7479962 - 1}{0,559753} \end{aligned}$$

$$A = 1,15129 \log \frac{\frac{\delta_2}{4}}{\frac{\delta_1}{4}} = 0,559753$$

$$\cos \delta_2 - \cos \delta_1 = -0,1527318 \quad \frac{1}{5}(\cos \delta_2 - \cos \delta_1) = -0,0509106$$

$$\begin{aligned} 2 \log \cos \frac{\delta_2}{4} &= 0,9951800 - 1 \\ 2 \log \cos \frac{\delta_1}{4} &= 0,9994872 - 1 \\ \log 24 &= 1,3802112 \\ \log \frac{\cos \frac{\delta_2}{4} - \cos \frac{\delta_1}{4}}{\cos^2 \frac{\delta_2}{4} \cos^2 \frac{\delta_1}{4}} &= 0,5925720 - 2 \\ & \frac{1,3748724}{0,0016508} \end{aligned}$$

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negatív.

$$\frac{1}{24} \frac{\cos \frac{\delta_2}{2} - \cos \frac{\delta_1}{2}}{\cos^2 \frac{\delta_2}{4} \cos^2 \frac{\delta_1}{4}} = -0,0016710$$

$$0,2176996 - 3$$

$$\begin{aligned} P_{21} &= 0,520617 \\ Q_{21} &= \cancel{0,507171} \\ &= 0,507171 \\ \sqrt{2} P_{21} &= 0,73626 \end{aligned}$$

$$\begin{aligned} P_{32} &= 0,184507 \\ Q_{32} &= 0,133325 \\ \sqrt{2} P_{32} &= 0,26093 \end{aligned}$$

29 m m. almeoju gyűjts

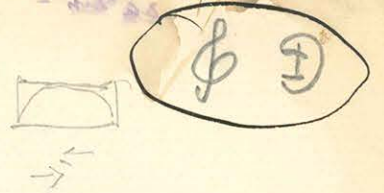
Értesítve

Déjén val

MAGYAR
TUDOMÁNYOS AKADÉMIA
KÖNYVTÁRA

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{1}{u} \int z^2 du + \frac{2a^2}{u} \left(dr \frac{\sin^2 \frac{\delta}{2}}{\cos \frac{\delta}{2}} \right)$$

$$z = a\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{3\sqrt{2}u} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} \right)$$



$$z = a\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a^2}{3u} \right)$$

$$z = a\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{u} c \right)$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + 4c \frac{a^3}{u} \sin^2 \frac{\delta}{2}$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} \left(1 + 2c \frac{a}{u} \right)$$

$$\frac{1}{3\sqrt{2}} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} = c \frac{a^2}{u}$$

$$c = \frac{1}{3}$$

$$\frac{1}{4} \frac{a^2}{u} \quad \frac{3}{8} \frac{a^2}{u} \quad \frac{a^2}{4} \quad \frac{3}{2}$$

$$1 - \frac{1}{2} \frac{1}{\sqrt{2}}$$

$$2 - \frac{1}{\sqrt{2}}$$

$$2 - \frac{\sqrt{2}}{2}$$

$$\frac{4 - \sqrt{2}}{2}$$

$$\frac{2,6}{2} \quad 1,3$$

$$du = \frac{dr}{\cos \frac{\delta}{2}}$$

$$dr = \frac{a}{\sqrt{2}} \left(1 + \frac{a}{u} c \right) \cos \frac{\delta}{2}$$

$$du = \frac{a}{\sqrt{2}} \left(1 + \frac{a}{u} c \right) \frac{\cos \frac{\delta}{2}}{2 \sin \frac{\delta}{2}}$$

$$z^2 du = \frac{a^3}{\sqrt{2}} \left(1 + 3c \frac{a}{u} \right) \cos \frac{\delta}{2} \sin^2 \frac{\delta}{2} d\delta$$

$$\frac{dr \sin^2 \frac{\delta}{2}}{\sin \frac{\delta}{2}} = \frac{1}{2} \frac{dr \sin^2 \frac{\delta}{2}}{\cos \frac{\delta}{2}} = \frac{a}{2\sqrt{2}} \left(1 + \frac{a}{u} c \right) \sin^2 \frac{\delta}{2}$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{a^3}{\sqrt{2}u} \left(1 + 3c \frac{a}{u} \right) \int \cos \frac{\delta}{2} \sin^2 \frac{\delta}{2} d\delta + \frac{a^3}{\sqrt{2}u} \left(1 + \frac{a}{u} c \right) \int \sin^2 \frac{\delta}{2} d\delta$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{a^3}{\sqrt{2}} \int \cos \frac{\delta}{2} \sin^2 \frac{\delta}{2} d\delta + \frac{a^2}{\sqrt{2}u} \left(1 + c \frac{a}{u} \right) \int \sin^2 \frac{\delta}{2} d\delta +$$

$$+ \frac{a^3}{\sqrt{2}u} \left(1 + c \frac{a}{u} \right) \int \cos \frac{\delta}{2} \sin^2 \frac{\delta}{2} d\delta + \frac{a^2}{\sqrt{2}u} \left(1 + \frac{a}{u} c \right) \int \sin^2 \frac{\delta}{2} d\delta +$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{4}{3} \frac{a^3}{\sqrt{2}u} \left(1 + c \frac{a}{u} \right) (1 - \cos^3 \frac{\delta}{2}) + \frac{a^4 \sqrt{2} c}{u^2} \int \sin^2 \frac{\delta}{2} d\delta - \frac{2\sqrt{2} a^4}{u^2} \int \sin^2 \frac{\delta}{2} d\delta$$

$$z^2 = A + \frac{1}{3} \frac{2\sqrt{2} a^4}{u^2} \cos \frac{\delta}{2} \left(1 + 2 \sin^2 \frac{\delta}{2} \right)$$

$$= z^2 + A + \frac{2\sqrt{2} c a^4 \cos \frac{\delta}{2}}{u^2} - \frac{4}{3} \frac{\sqrt{2} a^4 \cos^3 \frac{\delta}{2}}{u^2}$$

$$z^2 = A + \frac{2\sqrt{2}}{u^2} c a^4 \left(\cos \frac{\delta}{2} - 1 \right) + \frac{4}{3} \frac{\sqrt{2} a^4}{u^2} (1 - \cos^3 \frac{\delta}{2})$$

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} + \frac{4}{3} \frac{a^3}{\sqrt{2}u} \left(1 + 3c \frac{a}{u} \right) (1 - \cos^3 \frac{\delta}{2}) - \frac{2\sqrt{2}}{u^2} c a^4 (1 - \cos^3 \frac{\delta}{2})$$

$$\frac{4}{3} \frac{a^4}{\sqrt{2}u^2} c (1 - \cos^3 \frac{\delta}{2}) - \frac{2\sqrt{2}}{u^2} c (1 - \cos^3 \frac{\delta}{2}) + \frac{2\sqrt{2} a^4}{u^2} c \left(\cos \frac{\delta}{2} - 1 + \frac{2}{3} (1 - \cos^3 \frac{\delta}{2}) \right)$$

f) polynomi

$$z^2 = 2a^2 \sin^2 \frac{\delta}{2} \left(1 + \frac{2ac}{3\sqrt{2}u} \frac{(1-\cos^2 \frac{\delta}{2})}{\sin^2 \frac{\delta}{2}} + \sqrt{2}c \frac{a^2}{u^2} \cos \frac{\delta}{2} \right)$$

$$z = \sqrt{2}a \sin \frac{\delta}{2} \left(1 + \frac{a}{3\sqrt{2}u} \frac{1-\cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} + \frac{c}{\sqrt{2}} \frac{a^2}{u^2} \cos \frac{\delta}{2} \right)$$

$$+ \frac{2\sqrt{2}a^4}{u^2} c (1-\cos^2 \frac{\delta}{2}) + \frac{2\sqrt{2}a^4}{u^2} c (1-\cos \frac{\delta}{2})$$

$$\frac{2\sqrt{2}a^4 c}{u^2} \cos \frac{\delta}{2} (1-\cos^2 \frac{\delta}{2})$$

$$1 + \frac{1}{15}$$

$$15 \overline{) 100} \begin{array}{r} 0,06666 \\ 26664 \\ \hline 93324 \end{array}$$

$$\sqrt{1,1}$$

$$\sqrt{1,05}$$

$$\begin{array}{r} 0,0206963 \\ 0,0206963 \\ \hline 0413926 \\ 10481 \\ 503 \\ \hline 00019 \end{array}$$

$$\begin{array}{r} 1,05000 \\ 0,00125 \\ \hline 1,04875 \\ 1,04816 \\ \hline 10000 \end{array}$$

$$\begin{array}{r} 5 \\ 100 \\ \hline 25 \\ 10000 \end{array} \quad 12,5$$

MAGYAR TUDOMÁNYOS AKADÉMIA KÖNYVTÁRA

kifejtve $\sqrt{1+x} = 1 + \frac{x}{2} - \frac{1}{2} \frac{x^2}{4}$ szerint \odot helyre x^2 ben alkalmazva

$$z = \sqrt{2}a \sin \frac{\delta}{2} \left(1 + \frac{a}{3\sqrt{2}u} \frac{1-\cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} + \frac{c}{\sqrt{2}} \frac{a^2}{u^2} \cos \frac{\delta}{2} - \frac{1}{2} \frac{a^2}{18u} \frac{(1-\cos^2 \frac{\delta}{2})^2}{\sin^2 \frac{\delta}{2}} \right)$$

miután $\frac{1}{2} \frac{c^2 a^2}{u^2}$

$$z = \sqrt{2}a \sin \frac{\delta}{2} \left(1 + \frac{a}{3\sqrt{2}u} \frac{1-\cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} + \frac{c}{\sqrt{2}} \frac{a^2}{u^2} \cos \frac{\delta}{2} - \frac{1}{2} \frac{c^2 a^2}{u^2} \right)$$

$$2 \cos^2 \frac{\delta}{2} -$$

$$\frac{1}{150} - \frac{1}{18 \cdot 25} \quad \frac{1}{150} - \frac{1}{450}$$

$$\frac{3-1}{450} \left[\frac{1}{225} + \frac{1}{150} + \frac{1}{500} \right]$$

$$\frac{90}{2645}$$

$$\frac{4}{500} 1\%$$

$$z = a\sqrt{2} \sin \frac{\delta}{2}$$

$$z = a\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{3\sqrt{2}u_0} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} \right)$$

$$dz = \frac{a}{\sqrt{2}} \cos \frac{\delta}{2} + \frac{a^2}{3u_0} \cos^2 \frac{\delta}{2} - \frac{a^2}{3u_0} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} \cos \frac{\delta}{2}$$

$$2 du = \frac{a}{\sqrt{2}} \left(\frac{1}{\sin \frac{\delta}{2}} - 2 \sin \frac{\delta}{2} \right) - \frac{a^2}{3u_0} \sin \delta + \frac{a^2}{3u_0} \frac{1}{\sin \frac{\delta}{2}} - \frac{a^2}{3u_0} \frac{1}{\sin^3 \frac{\delta}{2}} + \frac{a^2}{3u_0} \frac{\cos \frac{\delta}{2}}{\sin^3 \frac{\delta}{2}}$$

~~$$u = a\sqrt{2} \left(\cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}} \right) + \frac{a^2}{6u_0} \cos \delta + \frac{a^2}{4u_0} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}}$$~~

$$u = a\sqrt{2} \left(\cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}} \right) + \frac{a^2}{6u_0} \cos \delta + \frac{a^2}{4u_0} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}} + \frac{a^2}{12u_0} \frac{\cos \frac{\delta}{2} - \cos^3 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}}$$

$$u = a\sqrt{2} \left(\cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}} \right) + \frac{a^2}{4u_0} \log \frac{1 + \cos \frac{\delta}{2}}{1 - \cos \frac{\delta}{2}} + \frac{a^2}{12u_0} - \frac{a^2}{24u_0} \frac{1}{\cos^2 \frac{\delta}{2}} + \frac{a^2}{6u_0} \cos \delta$$

$$u' - u = a\sqrt{2} \left(\cos \frac{\delta'}{2} - \cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} \right) + \frac{a^2}{4u_0} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} + \frac{a^2}{48u_0} \frac{\cos^2 \frac{\delta'}{2} - \cos^2 \frac{\delta}{2}}{\cos^2 \frac{\delta'}{2} \cos^2 \frac{\delta}{2}} + \frac{a^2}{6u_0} (\cos \delta' - \cos \delta)$$

$$u' - u = a\sqrt{2} \left(\cos \frac{\delta'}{2} - \cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} \right) + \frac{a^2}{2u_0} \left(\frac{1}{2} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} + \frac{1}{3} (\cos \delta' - \cos \delta) + \frac{1}{24} \frac{\cos \frac{\delta'}{2} - \cos \frac{\delta}{2}}{\cos^2 \frac{\delta'}{2} \cos^2 \frac{\delta}{2}} \right) - \frac{a^2}{u_0} \frac{1}{2} (\cos \delta' - \cos \delta + \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}})$$

$$\log \text{ant } x = \log \text{only } x$$

$$\log \text{ant } x = 2,302585 \log \text{only } x$$

$$u' - u = a\sqrt{2} P + \frac{a^2}{u_0} Q$$

$$u' - u = a P + \frac{a^2}{u_0} Q - \frac{a^3}{u_0^2} R$$

$$a = \frac{u' - u}{P + \frac{a}{u_0} - \frac{a^2}{u_0^2} R}$$

$$\frac{\epsilon}{\epsilon'} = \frac{a\sqrt{2} P + \frac{a^2}{u_0} Q}{a\sqrt{2} P + \frac{a^2}{u_0} Q}$$

$$P = \sqrt{2} \left(\cos \frac{\delta'}{2} - \cos \frac{\delta}{2} + \frac{1}{2} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} \right) \quad Q = \frac{1}{4} \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}} + \frac{1}{6} (\cos \delta' - \cos \delta) + \frac{1}{48} \frac{\cos^2 \frac{\delta'}{2} - \cos^2 \frac{\delta}{2}}{\cos^2 \frac{\delta'}{2} \cos^2 \frac{\delta}{2}}$$

$$R = \frac{1}{2} (\cos \delta' - \cos \delta + \log \frac{1 + \cos \frac{\delta'}{2}}{1 - \cos \frac{\delta'}{2}})$$

Er a jo

Authentic

Part 1

Erwin

$$\log 1 - \cos^2 \frac{\delta'}{2} = 0,7070087 - 1$$

$$\log 1 - \cos^2 \frac{\delta}{2} = 0,7199313 - 3$$

$$b = 7 \quad n = +$$

$$\log 1,6782 = 0,2248427$$

$$8865364 - 1$$

dejsa		gyin	
326	+1	359,5	-0,5
226	+1	360	
226	+1	359	-1
226	+1	359	-1
340	+5	362	+2
339	+4	362,5	+2,5
339	+4	362,5	+2,5
339	+4	362,5	+2,5
334	-1	357	-2
333	-2	358	-2
233	-2	357	-2
333,5	-1,5	257,5	-2,5
335		359,5	-0,5
334	-1	359,5	-0,5
335		260	
226	+1	260	
325		358	-2
334	-1	256	-4
20	225	257	-2
erules	224,5	256	-4

$$\log a_n = 0,3383073$$

$$0,3383073$$

21793

$$\log 1 - \cos^2 \frac{\delta'}{2} = 0,7070087 - 1$$

$$\log a = 0,3383073$$

$$0,0453160$$

$$1,3663921$$

$$0,6789229 - 2$$

$$0,4771213$$

$$1,505150$$

$$1,1612680$$

$$0,5773888 - 1$$

$$1,3663931$$

$$0,047744$$

$$\log 1,047744 = 0,0202540$$

$$7886944 - 1$$

$$1505150$$

$$\sqrt{2} \sin \frac{\delta'}{2} \left(1 + \frac{a}{2r_2 n'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin^2 \frac{\delta'}{2}} \right) = 0,91088$$

$$0,9594634 - 1$$

$$\log 1 - \cos^2 \frac{\delta}{2} = 0,7199313 - 3$$

$$0,3383073$$

$$0,0576386 - 2$$

$$0,1717101 - 1$$

$$0,8859285 - 2$$

$$0,4771213$$

$$1,1505150$$

$$0,07690$$

$$\log 1,07690 = 0,0321754$$

$$1505150$$

$$7720369 - 2$$

$$0,9547273 - 2$$

$$\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{2r_2 n'} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}} \right) = 0,09010$$

$$\frac{a}{2} \frac{a^2}{n_0^2} (\sin \delta' - \sin \delta) = 0,00473$$

$$\frac{1}{9} \frac{1}{\sqrt{2}} \frac{1}{20} \log 0,55558 = 0,7447466 - 1$$

$$2,5818788$$

$$0,1628678 - 3$$

$$0,001455$$

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$$\log = 270 - 2,4212628$$

$$1505150$$

$$2,5818788$$

$$\frac{c^2}{\sqrt{2}} \frac{a^2}{n_0^2} (\sin \frac{\delta'}{2} - \sin \frac{\delta}{2}) = 0,001455$$

$$0,91088$$

$$0,00473$$

$$0,91561$$

$$0,88264$$

$$0,82697$$

$$0,91561$$

$$0,09156$$

$$82405$$

$$0,09010$$

$$0,00145$$

$$0,88264$$

$$2542096$$

$$= 0,9174898 - 1$$

$$0,3367198$$

Ervina

~~$$\log \dots = 0,82697$$~~

~~$$\log \dots = 0,9174898$$~~

$$\log \dots = 0,82405$$

$$\log \dots = 0,9159526$$

$$2542096$$

$$9159526$$

$$0,3382560$$

Aug. 11

Aug 11

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~~334,5~~
~~225~~
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381 ~~74~~
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379,5 -0,5
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381 ~~WA~~
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378 - -2
378 - -2
379 - -1
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378,5 -1,5
379 - -1
279 - -1
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278,5 -1,5
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279 - -1
380
276 - -4
276 - -3
277 - -3
277,5 -2,5
277 - -3
277 - -2
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277 - -3
278 - -2
277,5 -2,5
277,5 -2,5
278 - -2
278 - -2
277 - -3
276 - -4
225 - -5
276,5 -3,5
276 - -4
276,5 -2,5
276,5 -3,5

406,5
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402

288,5
577,0

405,77

405,57

405,08

$\frac{18 \cdot 08 + 50}{68}$

$\frac{144 + 3950}{64}$

$\frac{64 \cdot 471 + 396}{94}$

$5/87,5/17,5$
372,5

380,75

378,25

378,0

378,19

374,75

377,25

$\frac{50 \cdot 3,44}{68}$

$\frac{1720}{156}$

277
276
276
277
276,5
276,5
276
276
370
370
371
270,5
276
276
276
276

377,25 405,5
78 131,5

90,5

18/84,5/5,08
405,08

az értéket határozzuk meg

$$z_2 - z_1 = 377,25 \text{ meggyonozás} = 1,88625$$

$$z_2 - z_1 = 405,5 \text{ gyűm} \quad 202,25$$

meggyonozás

$$\log 1,88625 = 0,2755877 \rightarrow$$

$$\frac{0,2755993}{8865364 - 1}$$

$$\log a = 0,3890629 \quad a_n = 2,449$$

~~$a = 0,82419$~~

$$a = \frac{z' - z}{\sqrt{2} \sin \frac{\delta'}{2} \left(1 + \frac{a}{2\sqrt{2}n'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin^2 \frac{\delta'}{2}}\right) - \sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{2\sqrt{2}n} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}}\right) + \frac{c^2 a^2}{2n_0^2} (\sin \delta' - \sin \delta) - \frac{c^2 a^2}{2n_0^2} (\sin \frac{\delta'}{2} - \sin \frac{\delta}{2})}$$

$\delta' = 75^\circ 52'$ $\delta = 6^\circ 47'$ $a_{1/2,25}$

$n' = 14,5$ $n = 10$ $n_0 = 12,25$ $\frac{a}{n_0} = \frac{1}{5}$ $c = \frac{1}{3}$

$\frac{\delta'}{2} = 37^\circ 56'$ $3 \log \cos \frac{\delta'}{2} =$

$\log \cos \frac{\delta'}{2} = 0,8969265 - 1$ $3 \log \cos \frac{\delta'}{2} = 0,6907795 - 1$

$\log \sin \frac{\delta'}{2} = 0,7886944 - 1$

$\cos^2 \frac{\delta'}{2} = 0,490659$

$\frac{a}{2\sqrt{2}n'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin^2 \frac{\delta'}{2}} = 0,052663$

$\log 1,052663 = 0,0226996$

$\log \sin \frac{\delta'}{2} = 0,7886944 - 1$

$\log \sqrt{2} = 0,1505150$

$0,9619090 - 1$

$\sqrt{2} \sin \frac{\delta'}{2} \left(1 + \frac{a}{2\sqrt{2}n'} \frac{1 - \cos^2 \frac{\delta'}{2}}{\sin^2 \frac{\delta'}{2}}\right) = 0,91603$

$\sqrt{2} \sin \frac{\delta}{2} \left(1 + \frac{a}{2\sqrt{2}n} \frac{1 - \cos^2 \frac{\delta}{2}}{\sin^2 \frac{\delta}{2}}\right) = 0,09069$

$\frac{c^2 a^2}{2n_0^2} (\sin \delta' - \sin \delta) = 0,005677$

$\frac{c^2 a^2}{2n_0^2} (\sin \frac{\delta'}{2} - \sin \frac{\delta}{2}) = 0,001746$

$1 - \cos^2 \frac{\delta'}{2} = 0,509341 \quad \log = 0,7070087 - 1$

$\log a = 0,3890629$

$2,0960716$

$1,7890043$

$0,3070673 - 2$

$\log 2 = 0,4771213$

$\log \sqrt{2} = 0,1505150$

$\log 14,5 = 1,1613680$

$1,7890043$

$0,02028$

$0,307070$

$0,3070670 - 2$

$0,5773888 - 1$

$0,7296785 - 2$

$0,052663$

$N_{\text{gyűm}} = 0,828271$

$\log N_{\text{meggy}} = 0,9181724 - 1$

$A_{\text{gyűm}} = a = 2,442$

A_n és $A_{2,0,25}$ %

Dubrovnik — Februar 28.

1) Csok Playban

Külső 65, 587
78)

Előre 78, 585
6)

Külső 60, 583
77)

Előre 78, 580 a d... = 2972
61)

A kisebb átmérője 20 m.m.

$a = 2796$

Nagyobb átmérője 30 m.m.

Külső 96, 582
14)

Előre 16, 581
97)

1 buborék 587
585
583
582
18

584,5
4,5
z = 297,25

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KÖNYVTÁRA

$2705 \cdot (2\sqrt{2} - 1) = 4945$

$\frac{2705 \cdot 2\sqrt{2}}{6.13}$

0,4321620
2619762
0,6941435

6.13

$\frac{6.18}{10^8}$

108 | 4,945 | 0,046
432
620

4945
78 | 4945 | 0,063
468
265

1,063

1,046 | 2,800 |
2,992 |
70806
76276
8640

$\text{avg } 297,25 = 4721219$
0265000

0,4465886

Pontos an méh buborék

Új buborék átmérője 38 m.m.

557
558
561
561

$$\frac{2237}{4} = 559,25$$

Átmérő 24 m.m.

556
554
559
560.

$$\frac{2229}{4} = 557,25$$

Körép új buborék 558,25 $\xi = 279,12$

$$n_0 = 18$$

$$a = \frac{279,12}{1 + \frac{27}{6 \cdot 18} (2n_0 - 1)} = \frac{279,12}{1,045} = 2,671$$