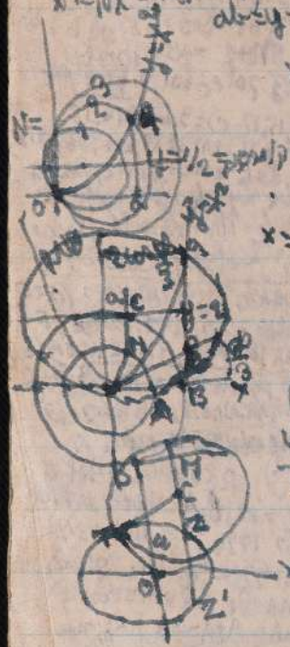
61

10



Euclid p ∴ $p!+1 = mp$ ∴ $7!+1 = 5041 = 71^2$

$a \equiv b \ (M/p)$ ∴ $a \equiv b \ (M/p)$ ∴ $c \equiv 0 \ (M/p)$ ∴ $uv \equiv 0$ ∴ $u \equiv 0$ ∴ $v \equiv 0$ ∴ $0 \equiv u \equiv v$

$f(x) \equiv 0 \ (M/p)$ ∴ $f(x) \equiv 0 \ (M/p)$ ∴ $f(x) \equiv 0 \ (M/p)$ ∴ $f(0) \equiv (p-1)!+1 \equiv 0 \ (M/p)$

$f(x) = (x-1)(x-2)\ldots(x-\overline{p-1}) - (x^{p-1}-1)$ ∴ $f(1)=0$, $f(2)=2^{p-1}-1$ ∴ $f(x) \equiv 0 \ (M/p)$

$f(x) \equiv 0 \ (M/p)$ ∴ $p-1$ ∴ $p-2$ ∴ $f(0) \equiv (p-1)!+1 \equiv 0$

$3 \times 4 = 4 \times 4 = 3 \equiv 3 \times 4 = 4 \times 3 = 3 \times 4$

$(M,2,5)$ ∴ 2^2 ∴ 3^4

Dirichlet Distribution Principle.

= Box P.

sine qua non

overlapping

n^2-n+41, $n=1-40 \to p \wedge f(41)=41^2$

$(p-1)!$ ∴ $p-1 > q$ ∴ $p=q^2$ ∴ $(p-1)!$ ∴ $p-1 > q$ ∴ $p-1 \equiv 1 \equiv W_p$ ∴ $W_p = 0$

010111

$0+0101$, $110\,1111101$, 011110111, 0101110111 — $110\,1111101$, 011110111, $010\,1111101$, $110\,1111101$

$1111110111 = 1^6 01^3$

$\pi/2 = \frac{2.2}{1.3} \times \frac{4.4}{3.5} \times \frac{6.6}{5.7} = 1 + 1/3(1/2) + 1/5\left(\frac{1.3}{2.4}\right) + 1/7\left(\frac{1.3.5}{2.4.6}\right)$

$\pi/4 = 1 - 1/3 + 1/5 - 1/7 \ldots$

$4/\pi = 1 + 1^2/1 + 3^2/2 + 5^2/2 \ldots$

$e = (3/4)^2(4/3)^3 \ldots = \sum_{0}^{\infty} 1/n! = 2 + 1/1 + 1/2 + 1/1$

$1, 4, 1, 3, 6, 1 \ldots$

Bruno

Bonolis

$n^5 - n = n(n^4-1) = n(n^2+1)(n^2-1) = m$

$2^{341} - 2 \vdots 341 = 31.11$

F' little Teor. $R^p - R \mid p$ ∴ $2^2-2=2$, $2^3-2=3.2$, $2^5-2=5.6$, $2^7-2=7.18 \equiv R^{p-1}-1$

$9^{340}-1 \vdots 2^{10}-1 = 31.33 = 3.341$

$9^{120}-1 \vdots 3^5-1 = 242 = 2.121$

Frenicle

$3a^5, 6a^4b, 6a^3b^2, 3a^3bc, 3a^2b^2c$

$5!/3!2! = 10$, $5!/3! = 20$, $5!/2!2! = 30$

$1\times3 + 6\times5 + 6\times10 + 3\times20 + 3\times30 = 243$

$a^4, a^3b, a^2b^2, a^2bc = 3!/2, 1, 2, 2 = 3.6, 3.3 = 10, 4!/4!, 3!, 2!2!, 2! = 1, 4, 6, 12 = 36+18+24+3 = 81$

$3a^4, 6a^3b, 3a^2b^2, 3a^2bc = 5!/4!, 3, 6, 12 = 1.3+3.6+6.3+12.3 = 75$

$3a^3, 6a^2b, 1abc = 3.1+6.3+1.6 = 24$

$3a^2, 3ab = 3.1+3.2 = 6$

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

$(a+b..)^n - (a^n+b^n..)$ ∴ $(R+1)^n - (R^n+1) = Bp$

$= RH(a,b,..) \equiv n^p - n = Np \equiv n(n^{p-1}-1) = NP$ ∴ $(R+1) = R^p - 2 + Pp$

$x^3+y^3+z^3 = R^3$ ∴ $3,4,5;6$ b) $1,6,8;9$ Fibonacci, c) H.W. Richmond >100 sets a) $25^3, 38^3, 87^3, 90^3$

b) $24, 63, 89 = 98$

II) Ramanujan. $10^3+9^3 = 12^3+1^3 = 1729$ b) $96^3+50^3 = 93^3+59^3 = 1,009,736$

III) $12!+1 = 479.001,601$ ∴ $R(1,2..12)=1$ b) Wilson

1770 Ed. Waring Medit Alg $(p-1)!+1 = Bp$, John Wilson

Lagrange Euler

Gauss

$(2,6)(3,4)(5,9)(7,8) = 1$ ∴ $R(9!)=1$, $R(10)=10$

complete term of S residue	$\sqrt{23}$	$(\sqrt{23}+4)/7$	$(\sqrt{23}+3)/2$	$(\sqrt{23}+3)/7$	$\sqrt{23}+4$	$(\sqrt{23}+4)/7$
	4	1	3	1	8	1
	$\sqrt{23}-4$	$\sqrt{23}-3/7$	$\sqrt{23}-3/2$	$\sqrt{23}-4/7$	$\sqrt{23}-4$	$\sqrt{23}-3/7$

b^2+h … $C=[2b/h]$ [illegible]

$N=(b;c,d\ldots d,c,2b)$, $\sqrt{24}$ 1.8

$x=(b;\overline{c,2b})$ ∴ $x-b=1/c+1/x+b$ ∴ x^2-b^2+2b/c

$\sqrt{2}=1$		$\sqrt{10}=3$		6	$\sqrt{17}=4$	4
$\sqrt{3}=1$	1 2	$\sqrt{11}=3$	3	6	$\sqrt{18}$	21312
$\sqrt{5}=2$	4	$\sqrt{12}=3$	2	6	$\sqrt{19}$	2
$\sqrt{6}=2$	2 4	$\sqrt{13}=3$	1,1,1,1	6	$\sqrt{20}$	1,1,2,1,1
$\sqrt{7}=2$	111 4	$\sqrt{14}=3$	1,2,1	6	$\sqrt{22}$	1,2,4,2,1
$\sqrt{8}=2$	2 4	$\sqrt{15}=3$	1	6	$\sqrt{23}$	1,3,1

$\sqrt{b^2+2b}=(b;\overline{1,2b})$ ∴ $2b,b,2,1=c$

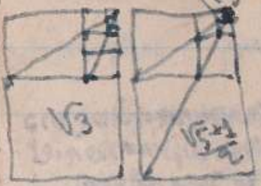
$\sqrt{b^2+b}=(b;\overline{2,2b})$. $\sqrt{b^2+2}=(b;\overline{b,2b})$

2,2,3,4,5,6,10,12,15,20,30,60

$3>k$. $\sqrt{991}$ — $\sqrt{1009}$

$\sqrt{6}=2,2,2$ 2,1,4	$\sqrt{8}=2,4,1$ 2,1,4	$\sqrt{22}=4,6,1$
$\sqrt{13}=3,4,1$	$\sqrt{10}=4,3,2$	2,3,2
1,3,1	2,5,1	4,2,4
2,3,1	3,2,3	4,3,2
1,4,1	3,5,1	2,6,1
3,1,6	2,3,2	4,1,8
	4,1,8	

$\sqrt{3}=(1;\overline{1,2})$, Divine Ratio $(\sqrt{5}+1)/2=(1,1,1,1\ldots)$



$\sqrt{2}=1+1/y$ ∴ $\sqrt{2}-1=1/y$ ∴ $\sqrt{2}+1=y$

$\sqrt{23}=4+1/y$ ∴ $1/y=\sqrt{23}-4$ ∴ $y=\frac{\sqrt{23}+4}{7}=1+1/z$ ∴ $1/z=\frac{\sqrt{23}-3}{7}$

$z=\frac{7}{\sqrt{23}-3}=\frac{\sqrt{23}+3}{2}=3+1/k$ ∴ $1/k=\frac{\sqrt{23}-3}{2}$ ∴ $k=\frac{2}{\sqrt{23}-3}=\frac{\sqrt{23}+3}{7}$

$=1+1/r$ ∴ $1/r=\frac{\sqrt{23}-4}{7}$ ∴ $r=\frac{7}{\sqrt{23}-4}=\sqrt{23}+4=8+1/r$

∴ $1/r=\sqrt{23}-4=1/y$

1621 … AG … D=Null Factor … (A) …

1631 Thomas Harriot $ax+b=0$, $px^2+bx+c=0$ …

d'Alembert … AI …

proles sine matre creata AS … Gauss … 1806,16 Argand …

Chasles …

$e^{i\pi}+1=0=\cos\pi+i\sin\pi=-1+0+1=0$

$343:216::12:8::9:3::1:1::1:1$ … 2P

$2^3 3^3=216$ … $8^3=343$ … 23 … 243

∴ 211221,12 … GCD

$e=106/39$, $\epsilon=.04\%$

106	39	2	28
39	28	1	11
28	11	2	6
11	6	1	5
6	5	1	1
5	1	5	0

$N=[N]+1/[N_1]+1/[N_2]\cdots+1/[N_n]$

$N=([N];[N_1];\ldots N_n)$ ∴ $106/39=(2;1,2,1,1,5)$

$216/343$ …

NR … N=h, 1007 …

$n_k,(D_k)=n_kN_{k-1}+N_{k-2}$ … Wallis John … Huygens

	2	1	2	1	1	5
n	2,3	2.3+2=8	1.8+3=11	19	106	
D	1,1	2.1+1=3	2.3+1=4	7	39	
H.D=-1	+1	-1	+1	-1		

$H_k=\begin{vmatrix}N_{k-1} & N_k\\ D_{k-1} & D_k\end{vmatrix}=(-1)^k$

AI, AD, AS … $x^n+y^n=z^n$ … AD … $qx-py=z$ …

$y=b+nq$ … $x=a+np$ … $x=x,y=-z$ … $qx+py=z$ …

$qN-pD=\pm1$ … $D=y, N=x$ … Hammond … N/D … $\bar D=y$, $N=x$

$x=np-rN$, $y=\ldots$

$x=np+zN$, $y=nq+zD$ …

$39x-106y=5$ ∴ $N/D=19/7$ ∴ $\begin{vmatrix}19 & 106\\ 7 & 39\end{vmatrix}=-1$ ∴ $x=106n-95$, $y=39n-35$ … $n=5$ ∴ $x=106m+…$, $y=39m+…$

… $2\pi/n$ … Cyclotomy 13

… Gauss 1801 …

$F_n=q^{2^n}+1$ … $n=0,1,2,8$ ∴ $F_n=3,5,17,257$. 15,51,85,255. $2^n-1=0$ … Re Cyclotomie

$2\pi/p=a$, $2\pi/q=b$ … $xa-yb$ … ∴ $xa-yb$ … $2\pi/pq=c$ … $xa-yb=c$

$51/40=(1;3,1,1,2,3)$. $N/D=14/11$ ∴ $11\left(\frac{2\pi}{40}\right)-14\left(\frac{2\pi}{51}\right)=\frac{2\pi}{40{,}51}$ … $yo=q$ …

… Random … $N=23=4^2+7$

$[\sqrt{23}]=4$, $R=\sqrt{23}-4$ … $\sqrt{23}+4/7$ … $\sqrt{23}=(4;\overline{1,3,1,8})$, 1,3,1,8 = cycle