Comparison of the two styles of notation

Branch activities

Old	New	Cl	Meaning	Old	New	Cl	Meaning
&	X		direct product	O	-		Circles, spheres
A	A	s	second subject	Pp	p	p	Polygon sides
B	B	s	third subject	Q	4	n	branch mark '4'
C	C	s	fourth subject	R	2	n	branch mark '2'
Dd	/d	p	polygon density	Rr	-	p	polygon ratio
E	E	s	second object	S	3	n	unmarked branch
F	5	n	branch mark '5'	T	6/2	n	branch mark '$\frac{6}{2}$'
G	G	s	third object	U	∞	n	branch mark '∞'
H	6	n	branch mark '6'	V	5/2	n	branch mark '$\frac{5}{2}$'
I-N			(unused)	W-Z			(unused)

Node activities

Old	New	Cl	Meaning	Old	New	Cl	Meaning
†	o	-	unmarked node	:	z		First loop node
/	x	f	vertex node	::	zz		Second loop node
\	m	f	face node	+	-	a	Arch marked '$\frac{4}{2}$'
-	a		atom node	*	-	a	Arch marked '$\frac{6}{2}$'
#	r		lamina node	++	-	a	Arch marked '$\frac{8}{4}$'
‡	s		snub node	%		s	Complex polygon
				-	p		Petrie node

†	Unconnected nodes are not marked in the old style
‡	The old style uses /, and a h- (for half) prefix.

Context activities

Old	New	Cl	Meaning	Old	New	Cl	Meaning
f	-	v	5	pp		v	p
h	-	v	6	q		v	4
i	-	i	inversion	s		v	3

sv	structure s is marked with value v
ni	value n is Inverted, that is $\frac{1}{n} + \frac{1}{ni} = 1$
fv	form is of size of the shortchord of {v}.

Notes

Cl	The class governs the meaning of the context activity
-	No form for this exists in this notation.

Shortchords and diameters

	shortchord	diameter square		
{3}	1.000 000 000 000 00	1.333 333 333 333 33		
	1.333 333 333 333 33	1.500 000 000 000 00	{3,3}	
{4}	2.000 000 000 000 00	2.000 000 000 000 00	{3,4}	{3,3,4}
	2.666 666 666 666 66	3.000 000 000 000 00	{4,3}	
{6}	3.000 000 000 000 00	4.000 000 000 000 00	{4,3,3}	{3,4,3}
{∞}	4.000 000 000 000 00	∞		
{8}	3.414 213 562 373 09	6.828 427 124 746 19		
{12}	3.732 050 807 568 88	14.928 203 230 275 5		
{5}	2.618 033 988 749 89	2.894 427 190 999 92		
	2.894 427 190 999 92	3.618 033 988 749 89	{3,5}	
	3.490 711 984 999 86	7.854 101 966 249 69	{5,3}	
{10}	3.618 033 988 749 89	10.472 135 954 999 6		{3,3,5}
	3.927 050 872 124 84	54.832 815 729 998 5		{5,3,3}
{7}	3.246 979 603 717 47	5.311 941 110 422 73		
{14}	3.801 937 735 804 84	20.195 669 358 089 2		
{9}	3.532 088 886 237 96	8.548 632 170 413 03		
{18}	3.879 385 241 571 82	33.163 437 477 526 4		

	Heptagon	Enneagon
a	1.801 937 735 804 84	1.879 385 241 571 82
b	2.246 979 603 717 47	2.532 088 886 237 96
c		3.879 385 241 571 82

Representitve vertices of SQ and SF

	/SQ	S/Q	SQ/
A	$\sqrt{2}, 0, 0$	$\sqrt{2}, \sqrt{2}, 0$	1,1,1

permutations and all changes of sign

	/SF	S/F	SF/
A	ϕ,1,0	2ϕ,0,0	ϕ^2,0,1
B	ϕ,1,0	ϕ^2,ϕ,1	ϕ^2,0,1
C	ϕ,1,0	ϕ^2,ϕ,1	ϕ,ϕ,ϕ
D	ϕ,1,0	ϕ,1,ϕ^2	ϕ,ϕ,ϕ
E	ϕ,1,0	ϕ,1,ϕ^2	1,ϕ^2,0

cyclic permutations and all changes of sign

Hyperbolic Chords

Chord	Value	Sys	2D	3D	4D
0.043 781 691 92		Z7	x3x7x		
0.112 866 001 69		Z7	x3x7o		
0.118 033 988 75	$1/2\phi^3$	Z5		o3x5x3o	
0.188 854 382 00	$4/5\phi^3$	Z5			x5o3o3o3o
0.207 106 781 18	$1/2\alpha$	Z1		x4x3x4x3z	
0.309 016 994 38	$1/2\phi$	Z5		o5x3x5o	x5x3x5x3z
0.329 306 138 28	$4/3ab$	Z7	x7o3o		
0.414 213 562 38	$1/\alpha$	Z4	o3x8o	x4x3o3o3z	x4x4o3o3o3z
0.526 932 167 30			x3x4x6x		
0.618 033 988 75	$1/\phi$	Z5	o5x4o	x5o3o5x	x5o3o3o5x
		Z5	o3x10o	o3x5x3o3z	
1.000 000 000 00	1	Z1	o4x6o	o4x3x4o3z	o4x3x4o3o3z
1.236 067 977 50	$2/\phi$	Z5	x5o4o	x5o3o4o	x5o3o3o4o
1.311 941 109 44	$4/ab\gamma^2$	Z7	x3o7o		
1.618 033 988 75	ϕ	Z5	o5x6o	x3x5o3o5z	
1.788 854 382 00	$4/\sqrt{5}$	Z5	x4o5o		o5o3x3o5o
2.828 427 124 75	$2\sqrt{2}$	Z4	x3o8o	rx4x3o8o	or3rx4x3o8o
3.236 067 977 50	2ϕ	Z5		x4o3o5o	
3.577 708 764 00	$8/\sqrt{5}$	Z5	x5o5o		
3.828 427 124 75	$1+2\sqrt{2}$	Z4		o3x3o3o4z	
3.854 101 966 25	$1+3\phi$	Z5		x3o5o3o	
4.548 632 170 44	$4c/b$	Z9	x3o9o		
5.472 135 955 00	$4\phi-1$	Z5		x5o3o5o	
6.472 135 955 00	4ϕ	Z5	x3o10o	x3o5oAo	x3o3o3o5o
7.472 135 955 00	$4\phi+1$	Z5		o3x3o3o5z	
9.656 854 249 52	4α	Z4	x4o8o	x8o6o	ro35m4o3o8o
10.928 203 230 3	$4\omega\sqrt{2}$	Z6	x3o12o	x12o6o	
16.944 271 910 0	$4\phi^3$	Z5	x4o10o		x4o3o3o5o
23.416 407 865 0	$4\phi^2\sqrt{5}$	Z5	x5o10o		x5o3o3o5o
33.888 543 820 0	$8\phi^3$	Z5	x10o10o		xEo3o3o5o
35.082 543 448 4	$4\phi^2\omega^2-1$		x5o12o	x12o10o	
155.453 832 756		Z10	x20o20o		

Pentagonal Chords

value		ang	/F	/F/	/SF	SF/	S/F	/SSF
0.000 000 000 000 00	0	0	1	1	1	1	1	1
1.000 000 000 000 00	1	12	2	2	5	3	4	12
2.618 033 988 749 89	ϕ^2	20	2		5	6	4	20
3.618 033 988 749 89	$\phi\sqrt{5}$	24		2	1		4	12
5.236 067 977 499 79	$2\phi^2$	30				6	4	30
6.854 101 966 249 68	ϕ^4	36		2		3	4	12
7.854 101 966 249 68	$3\phi^2$	40				1	4	20
9.472 135 949 999 58	$\phi^3\sqrt{5}$	48		2			4	12
10.472 135 949 999 6	$4\phi^2$	60		1			1	1

Pentagonal Chords						
Length	Chords			Steps		Examples
0.118 033 988 75						o3x5x3o
0.188 854 382 00						x5o3o3o
0.309 016 994 38						x3x5x3x5z
0.618 033 988 75						o3x10o, x5o[3o]5x
0.618 033 988 75						o4o5o, o5x3o4o
1.236 067 977 50	A12			f		x5[o3]o4o
1.618 033 988 75						o4x10o, o5x6o
1.788 854 382 00	H12					x4o5o, o5o3x3o5o
2.236 067 977 50						o5x10o
2.618 033 988 75						o6x10o
3.236 067 977 50	A20	B12		fl	fll	x10o4o, x4o3o5o
3.577 708 764 00						x5o5o
3.854 101 966 25						x3o5o3o
4.472 135 955 00	A24					
4.683 281 573 00	H20					x6o5o
5.472 135 955 00						
6.472 135 955 00	A30	2A12	C12	ff	flu	x3o10o, x5o6o, x10o5o
6.472 135 955 00	H24					xEo3o5o , x3o3o3o5o
7.472 135 955 00						x3o3o5o3z
7.899 186 938 10						x3o3o3o5z
8.472 135 955 00	A36	B20		flfl		
9.708 203 932 50	A40			flr		cell diam x5o3o4o
10.355 417 528 0	2H12					cdia x5o3o3o3o
10.472 135 955 0						x10o6o
11.708 203 932 5	A48	B24		ffl		
12.944 271 910 0	A60					
16.944 271 910 0	H48	B30	C20	fflf		x4o10o, x4o3o3o5o
18.733 126 292 0	H60					cdia x5o6o
22.180 339 887 5	3A12	B36		fff		
23.416 407 865 0	2B12		C24	flfr		x5o10o, x5o3o3o5o
25.416 407 865 0		B40				
27.416 407 865 0						x6o10o
30.652 475 842 5		B48				
33.885 438 200 0		B60	C30			x10o10o, xEo3o3o5o
37.885 438 200 0						o5x6o6z
44.360 679 775 0			C36			
50.832 815 730 0			C40			
61.304 951 685 0			C48			o4x5o4z
67.777 087 640 0	4A12	2C12	C60	ffff		cdia x5o3o3o4o
82.249 223 595 0						o3x10o10z
1 283.987 577 52						cdia x5o3o3o5o

Twelftycell Chords						
value	/FSS		FSQ walks		Pyth.	/FSQ Notes
0.000 000 000 00	1					1a
1.000 000 000 00	4	AB	F		1000	1b 4ba 5b
2.618 033 988 75	12	B	FL	FLL	1100	1c 2a 3a* 4bb 5b
5.236 067 977 50	24	B	FF	FLU	2000	1d 2b 3b 4aa 5aa
6.854 101 966 25	12		FLUL			1e 3c 4bc 5b
7.854 101 966 25	4		FLR			1f 5b
9.472 135 955 00	24	A	FFL		2100	1g 3d* 5b
12.090 016 943 8	24		FLUR			1g 4bd
13.708 203 932 5	32	B	FLFL	FLRU		1g 3e 4ab 5ab
16.326 237 921 3	24		FLFU	FFLU	2110	1g 3f 4be
17.944 271 910 0	12		FFF	FLRL	3000	1g 3g* 4bf 5b
18.944 271 910 0	24	AB	FLFR			1g 4ac 5ac
20.562 305 898 3	28					1g 5b
23.180 339 887 4	24					1g
24.798 373 876 3	24					1g 3h* 5b
27.416 407 865 0	54	AB			2200	1g 3i* 5ad
30.034 441 853 7	24			FFFL	3100	1g 5b
31.652 475 842 6	24					1g
34.270 509 831 2	28	A				1g 3j 5b
35.888 543 820 0	24					1g 3k 5ae
36.888 543 820 0	12					1g 5b
38.506 577 808 7	24					1g 3l
41.124 611 797 5	32					1g 5af
42.742 645 786 4	24					1g 3m
45.360 679 775 0	24				2210	1g 3n 5b
46.978 713 763 8	4					1g 3o 5b
47.978 713 763 8	12					1g 5b
49.596 747 752 7	24	B			3110	1g 3p 5ag
52.214 781 741 2	12					1g 3q 5b
53.832 815 730 0	4					1g 5b
54.832 815 730 0	1		FFFF		4000	1g 5af

1a-f lie on face of /FSQ, 1g lie on face of /FSSQ
Fig 2 is vertix figure
Fig 3 is /FS/ surrounding face. Points * are decagon x10o4o
Fig 4a 4b are 2 /SF in 2nd vertex ring. Centre in 4a
Fig 5a 5b are 2 S/F in 3nd vertex ring. Centre in 5a

Chords of /FSSS and /FSSQ

Chord of /FSSS		Chord of /FSS	Chord of /FSSQ	
Abs length	Figure	Rel length	Figure	Abs Length
0.188 854 382 00	/FSSS	1.000 000 000 00	/F[S]Q	1.236 067 977 50
		2.618 033 988 75	/QSF	3.236 067 977 50
		5.236 067 977 50	/SSSF	6.472 135 955 00
1.788 854 382 00	/FQ	9.472 135 955 00		
		13.708 203 932 5	/QSSF	16.944 271 910 0
3.577 708 764 00	/FF	18.944 271 910 0	/FSSF	23.416 407 865 0
5.177 708 764 00	/HF	27.416 407 865 0	x10o10o	33.888 543 820 0
6.472 135 955 00	/SSSF	34.270 509 831 2		
		49.596 747 752 7	F/QQ:	
10.355 417 528 0		54.832 815 730 0		67.777 087 640 0

Octagon Chords

0.000 000 000 00	0	0	00	1
1.000 000 000 00	1	1	15	2
3.414 213 562 38	$\alpha\sqrt{2}$	2	30	2
5.828 427 124 76	α^2	3	45	2
6.828 427 124 76	$2\alpha\sqrt{2}$	4	60	1

Octagonal Chords

0.414 213 562 38	$1/\alpha$	A1	o8x3o	x4x3o3o3z	x4x3o3o3o3z
0.552 284 749 83	$4/3\alpha$		x8o3o		
0.828 427 124 75	2α	C1	o3x4o3o		
1.414 213 562 38	$\sqrt{2}$	A2	o8x4o		
2.414 213 562 38	α	A3	o8x6o		
2.828 427 124 75	$2\sqrt{2}$	A4	o8x8o		
2.828 427 124 75	$2\sqrt{2}$	B1	x3o8o	rx4o3o8o	ro3rx4x3o8o
3.828 427 124 75	$2\sqrt{2}+1$			o3x3o3o4z	
4.000 000 000 00	4	2C1			
4.828 427 124 75	2α	C3		A22	
8.242 640 687 12	$\alpha^2\sqrt{2}$	A23		A32	
9.656 854 249 52	$2\alpha\sqrt{2}$	B2	x4o8o	x6o8o	ro3rm4m3o8o
16.485 281 374 3	$2\alpha^2\sqrt{2}$	B3	x6o8o		
19.313 708 499 1	8α	B4	x8o8o		

Duodecagonal Chords

0.732 050 807 57	o3x12o	x6xo3o3o3z	A1		
0.976 067 743 44	x12o3o			B1	
1.732 050 807 57	o4x12o			C1	
2.732 050 807 57	o6x12o		A2		
3.464 101 615 14	x12o4o		2A1		D1
10.928 203 230 3	x12o6o	x3o12o	A6	B4	
25.856 406 460 6	x4o12o		4A1	C6	D3
40.784 609 690 9	x6o12o		A26	B42	
51.712 812 912 2	x12o12o				D6

Heptagon

0.112 866 001 69			x3x7o
0.246 979 603 72			o3x7o
0.329 306 138 28	A		x7o3o
0.801 937 735 80			o3x14o
1.069 250 314 39	Aa		x14o3o
1.311 941 110 44	B		x3o7o
2.493 959 207 44	D		x7o4o
3.603 875 471 60			x14o4o
4.259 846 026 60	Ba		$x\frac{7}{2}o7o$
6.623 882 220 88	Bb		x4o7o
8.987 918 414 84			x7o6o
11.207 750 943 2	C		x14o6o
11.935 823 331 3			x6o7o
13.247 764 441 8			x7o7o
16.195 669 358 1	B4	Ba2	x14o7o
16.195 669 358 1	2D		x3o14o
36.391 338 715 2	Ca		x4o14o
56.587 008 072 8	Cb		x6o14o
61.574 926 487 6		B42	x7o14o
72.782 677 430 4			x14o14o

Enneagon

0.532 088 886 26	F		o9x3o
0.709 451 848 20	A		x9o3o
0.879 385 241 57	G		o18x3o
1.172 513 655 39		B	x18o3o
1.532 088 886 26			o9x4o
1.879 385 241 57	Fa		o18x4o
2.532 088 886 26			o9x6o
2.879 385 241 57	Fb		o18x6o
3.064 177 772 32	D		x9o4o
3.411 474 127 83		G2	o9x18o
3.758 770 483 28	E		x18o4o
4.548 632 168 99	Ab	B2	x3o9o
10.128 355 544 6			x9o6o
11.517 540 966 2	C		x18o6o
13.097 264 338 0			x4o9o
16.066 173 131 1	Aab	B4	$x\frac{9}{2}o9o$
21.645 896 507 0	2D		x6o9o
26.194 528 676 0			x9o9o
29.163 438 326 7	Abb	B6	x18o9o
29.163 438 326 7	2E		x3o18o
38.884 583 311 2	2Ab	B9	
62.326 874 943 0	Ab4	B42	x4o18o
95.490 312 414 5	Cc		x6o18o
113.136 208 920	Ab6	B62	x9o18o
124.653 749 886			x18o18o