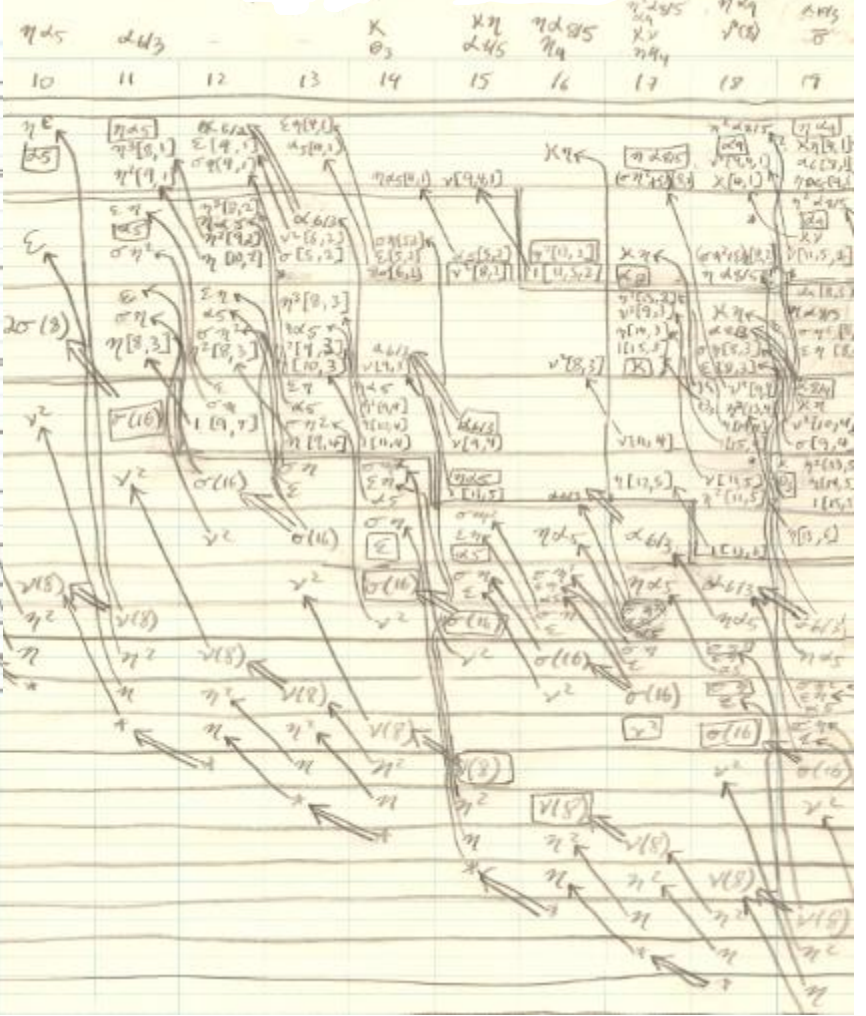
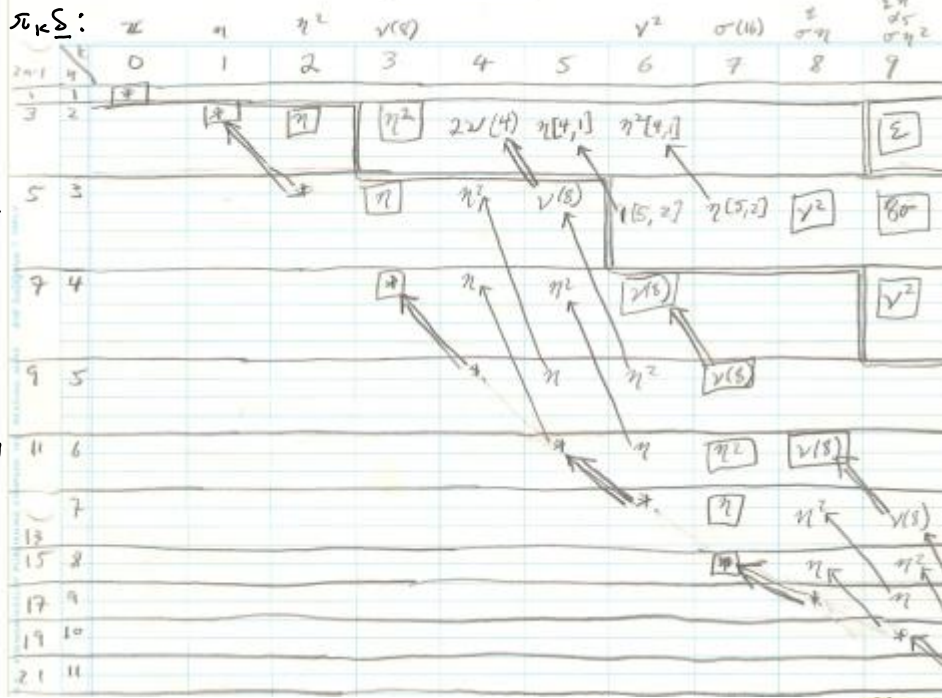
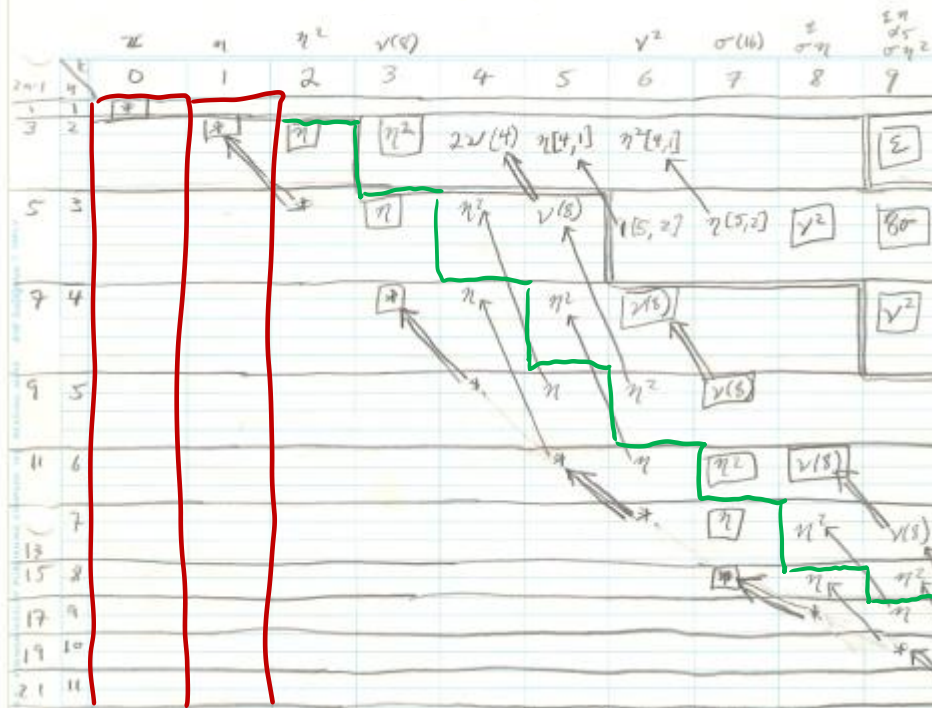




EHPSS

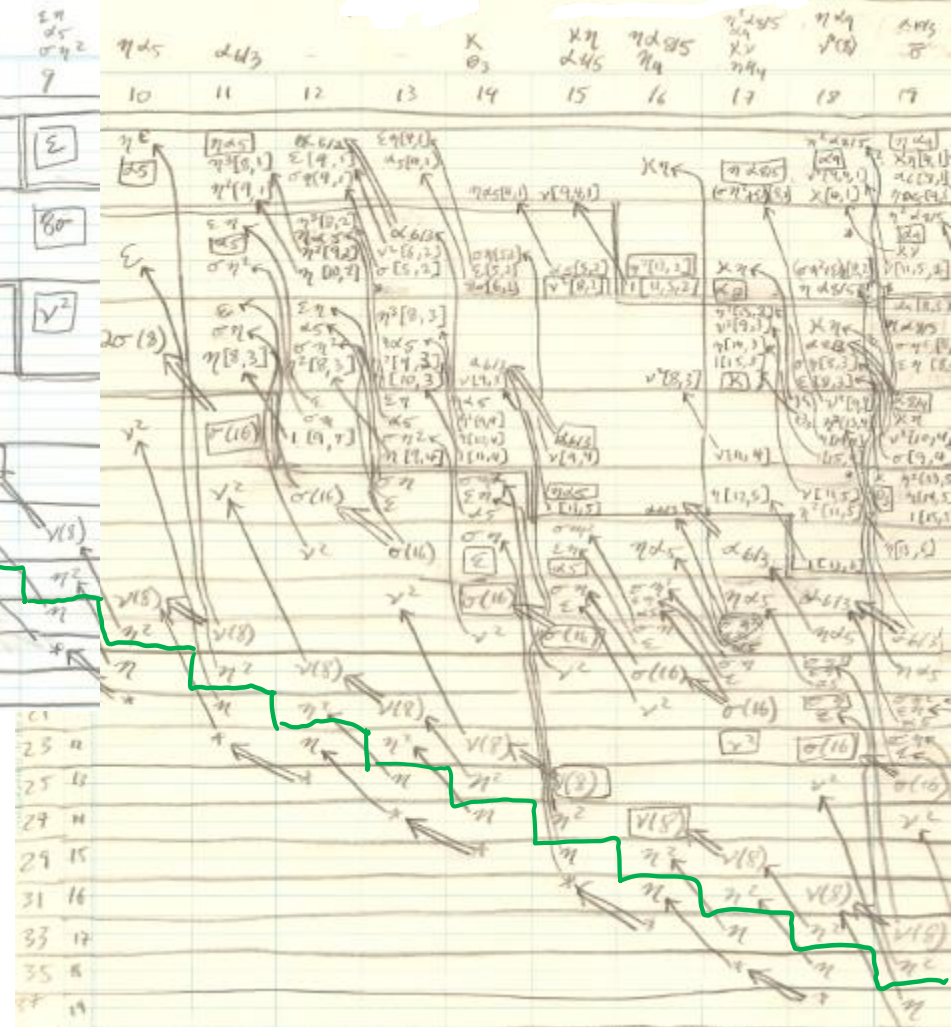
$$\pi_{\kappa} S^{2m+1} \Rightarrow \pi_{\kappa} \underline{S}$$

$$(\star =: \pi)$$



$$\pi_{n+1} S^n$$

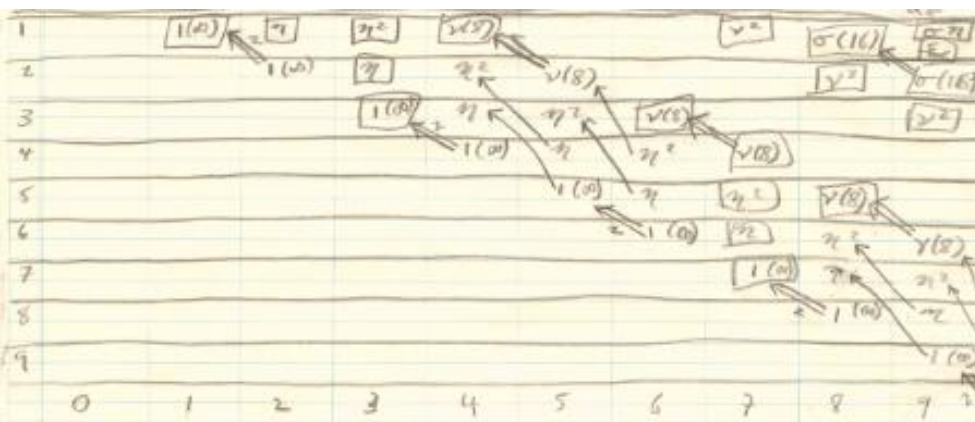
Curtis Algorithm



$$\pi_{n+2} S^n$$

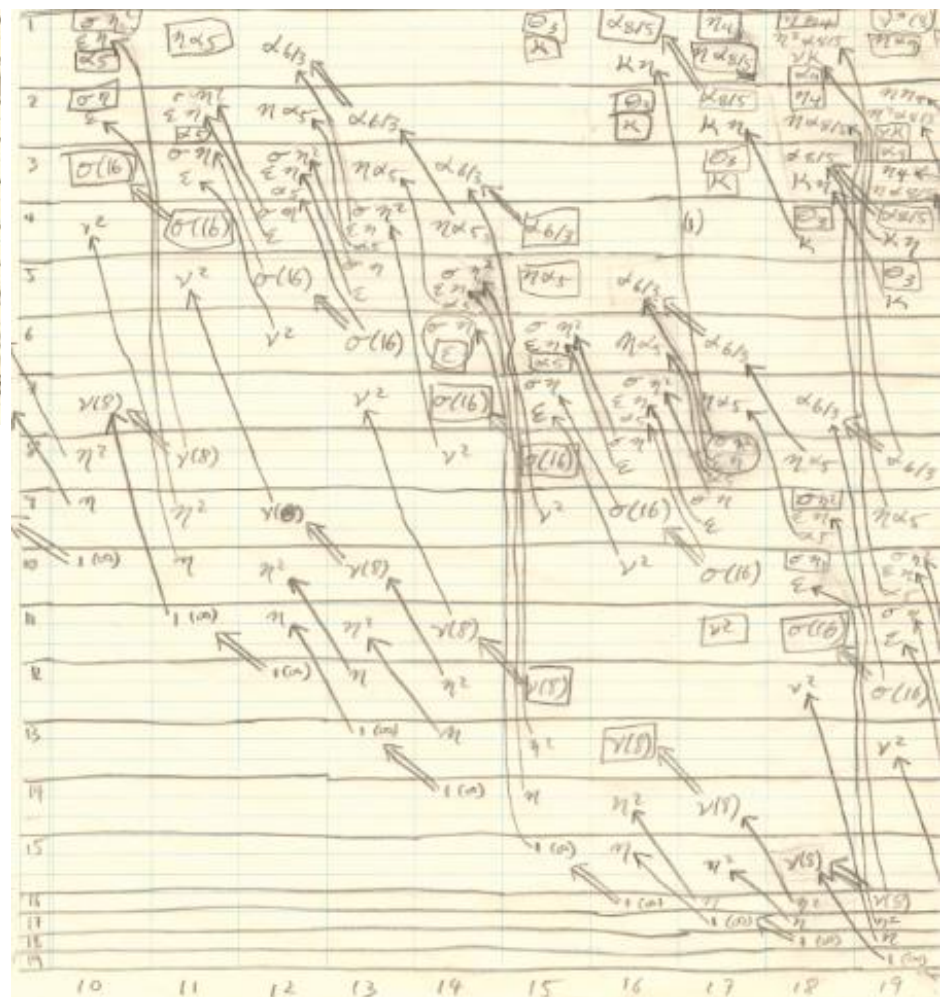
Curtis Algorithm

AMSS: $\pi_* \subseteq \Rightarrow \pi, L(1),$

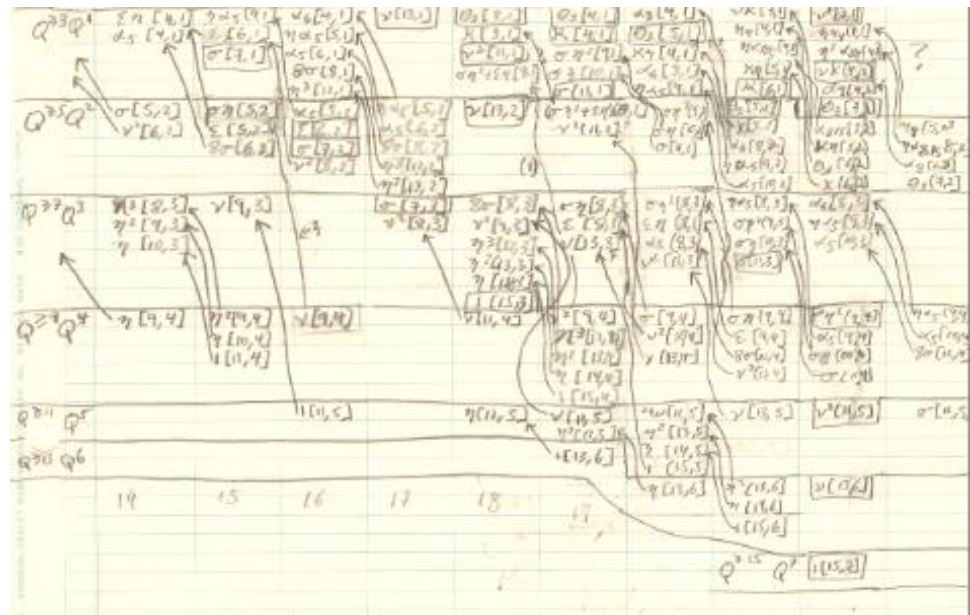
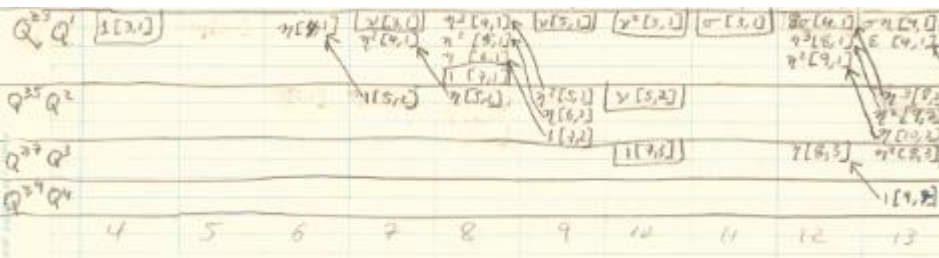


$4[1]$ $n[1]$ $n[1]$
 $n[2]$
 $1[3]$

$\pi_1 P^\infty$ $\pi_2 P^\infty$ $\pi_3 P^\infty$



$$\pi_a L(1)_{2m+1} \Rightarrow \pi_b L(2)$$



$$\pi_x L(2)_{2n+1} \Rightarrow \pi_x L(3)$$

[illegible][illegible]

TABLE 5. The GSS for $\pi_{n+1}(S^1)$

n	$\pi_n(L(0))$	$\pi_{n-1}(L(1))$	$\pi_{n-2}(L(2))$	$\pi_{n-3}(L(3))$
0	$1(\infty)$	$1[1]$		
1	η	$\eta[1]$		
2	η^2	$\eta^2[1]$		
		$\eta[2]$		
		$1[3]$	$1[3, 1]$	
3	4ν	$\nu[1]$		
	2ν			
	ν			
4				
5		$\nu[3]$	$\nu[3, 1]$	
6	ν^2	$\nu^2[1]$		
		$\eta^3[4]$		
		$\eta^2[5]$		
		$\eta[6]$		
		$1[7]$	$1[7, 1]$	
7	8σ	$\sigma[1]$		
	4σ			
	2σ			
	σ	$\nu^2[2]$		
		$\nu[5]$	$\nu[5, 1]$	
8	ϵ	$\sigma\eta[1]$		
	$\sigma\eta$			
		$\epsilon[1]$		
		$\nu^2[3]$	$\nu^2[3, 1]$	
		$\nu[5, 2]$		
		$1[7, 3]$		
		$\sigma[3, 1]$	$1[7, 3, 1]$	
9	$\epsilon\eta$	$\sigma\eta^3[1]$		
	$\sigma\eta^2$	$\sigma\eta[2]$		
	α_5	$\sigma[3]$		
		$\alpha_5[1]$		
10	$\eta\alpha_5$	$\eta\alpha_5[1]$		
		$\alpha_5[2]$		
		$8\sigma[4]$		
11	α_6			
	$\alpha_{6/2}$			
	$\alpha_{6/3}$			
12				
13		$\epsilon[6]$	$\sigma[7, 1]$	
	κ	$\sigma[7]$		
	θ_3	$\theta_3[1]$		

n	$\pi_n(L(0))$	$\pi_{n-1}(L(1))$	$\pi_{n-2}(L(2))$	$\pi_{n-3}(L(3))$
14	κ	$\epsilon[6]$		
	θ_3	$\sigma[7]$	$\sigma[7, 1]$	
		$\theta_3[1]$		
		$\kappa[1]$		
		$\alpha_6[4]$		
		$\eta\alpha_5[5]$		
		$\alpha_5[6]$		
		$8\sigma[8]$	$\sigma[7, 2]$	
		$\eta^3[12]$	$\epsilon[6, 2]$	
15	$\eta\kappa$	$\theta_3[2]$		
	α_8	$\kappa[2]$		
	$\alpha_{8/2}$			
	$\alpha_{8/3}$			
	$\alpha_{8/4}$			
	$\alpha_{8/5}$	$\nu[13]$	$\sigma[7, 3]$	
		$\alpha_{8/5}[1]$	$\nu[13, 1]$	$\sigma[7, 3, 1]$
16	η_4	$\theta_3[3]$		
	$\eta\alpha_{8/5}$	$\eta_4[1]$	$\theta_3[3, 1]$	
		$\nu^2[11]$		
		$\eta\alpha_{8/5}[1]$	$\nu^2[11, 1]$	
		$\kappa[3]$	$\nu[13, 2]$	
		$\alpha_8[2]$	$1[15, 3]$	$1[15, 3, 1]$
17	$\eta\eta_4$	$\eta\eta_4[1]$	$\theta_3[4, 1]$	
	$\eta^2\alpha_{8/5}$	$\eta_4[2]$		
	$\nu\kappa$	$\theta_3[4]$		
	α_9	$\sigma\eta^2[9]$		
		$\sigma\eta[10]$		
		$\sigma[11]$		
		$\alpha_9[1]$	$\kappa[4, 1]$	
18	$4\nu^*$	$\nu\kappa[2]$	$\sigma[11, 1]$	
	$2\nu^*$	$\nu^*[1]$		
	ν^*	$\theta_3[5]$		
	$\eta\alpha_9$	$\eta\alpha_9[1]$		
		$\alpha_9[2]$		
		$\alpha_8[4]$	$\theta_3[5, 1]$	
19	σ	$\bar{\sigma}[1]$		
	α_{10}	$\kappa\nu[3]$	$\kappa[6, 1]$	
	$\alpha_{10/2}$	$\kappa\eta[5]$	$\theta_3[5, 2]$	
	$\alpha_{10/3}$	$\kappa[6]$	$\sigma[11, 3]$	$\sigma[11, 3, 1]$
	$4\bar{\kappa}$	$\bar{\kappa}[1]$	$\nu^*[3, 1]$	
	$2\bar{\kappa}$	$\bar{\sigma}[2]$		
	$\bar{\kappa}$	$\nu^*[3]$		

only red diff's don't follow

TABLE 6. The GSS for $\pi_{n+2}(S^2)$

n	$\pi_n(L(0)_2)$	$\pi_{n-1}(L(1)_2)$	$\pi_{n-2}(L(2)_2)$	$\pi_{n-3}(L(3)_2)$
0	$1(\infty)$			
1	η	$1(\infty)[2]$		
2		$\eta[2]$ $1[3]$		
3	η^2 2ν ν 4ν			
4		$2\nu[2]$ $\nu[2]$		
5		$\nu[3]$	$1[5, 2]$	
6	ν^2	$\eta^3[4]$ $\eta^2[5]$ $\eta[6]$ $1[7]$		
7	8σ 4σ 2σ σ	$\nu^2[2]$ $\nu[5]$	$\eta[5, 2]$	
8	ϵ $\sigma\eta$	$4\sigma[2]$ $2\sigma[2]$ $\sigma[2]$	$\eta^2[5, 2]$ $\eta[6, 2]$ $1[7, 2]$	
9		$8\sigma[2]$ $\nu^2[3]$	$\nu[5, 2]$ $1[7, 3]$	
10	α_5 $\sigma\eta^2$ $\epsilon\eta$	$\sigma\eta[2]$ $\sigma[3]$		
11		$4\nu[8]$ $\alpha_5[2]$ $8\sigma[4]$	$\eta^2[9, 2]$ $\eta[10, 2]$ $\eta^3[8, 2]$	
12	$\eta\alpha_5$ $\alpha_{8/2}$ $\alpha_{8/3}$ α_8	$\epsilon\eta[4]$ $\alpha_{8/2}[2]$ $\alpha_{8/3}[2]$	$\sigma[5, 2]$ $\nu^2[6, 2]$	

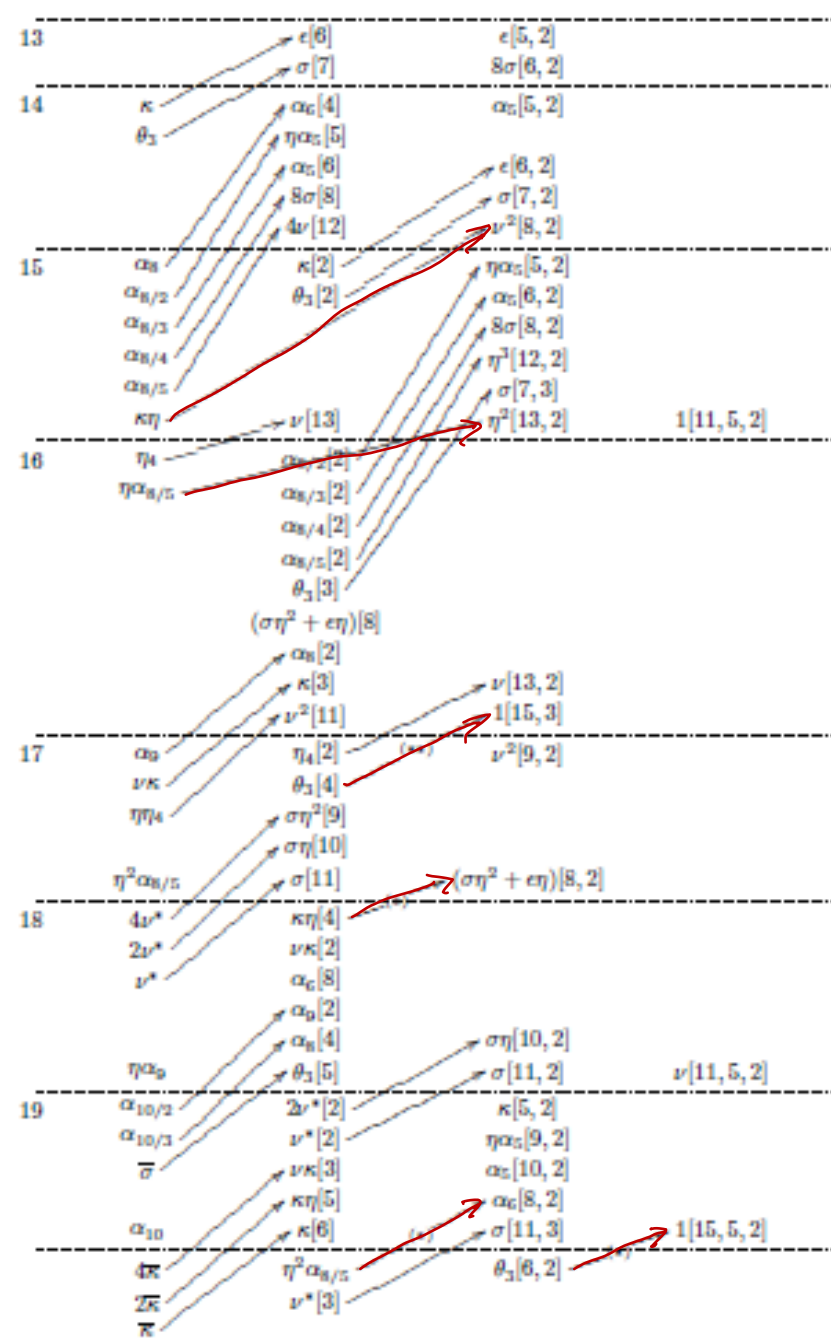
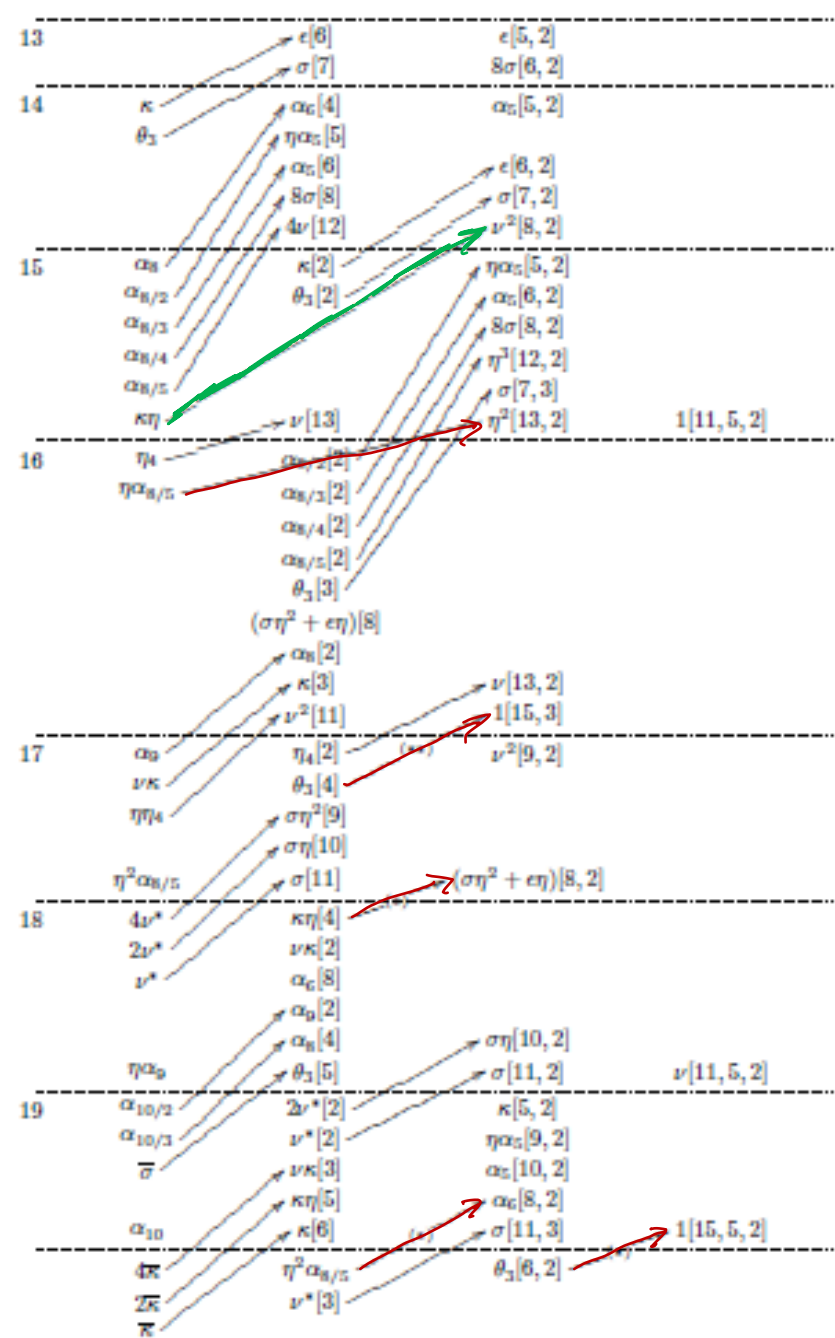
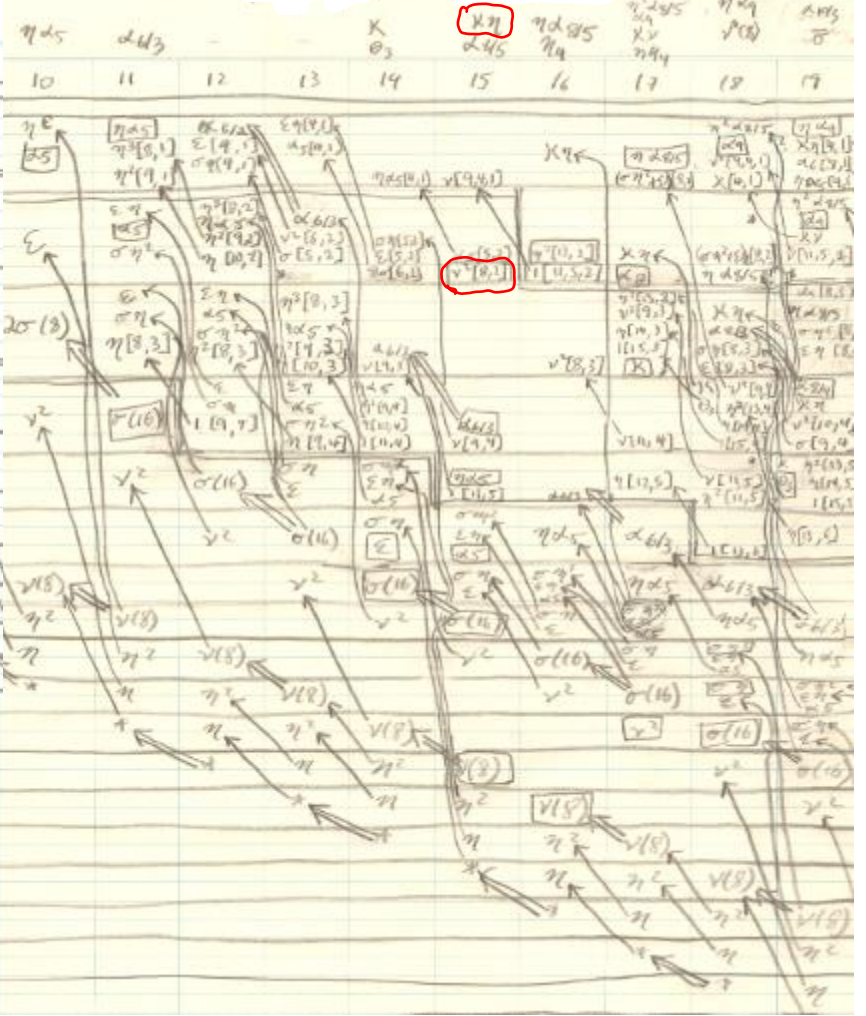
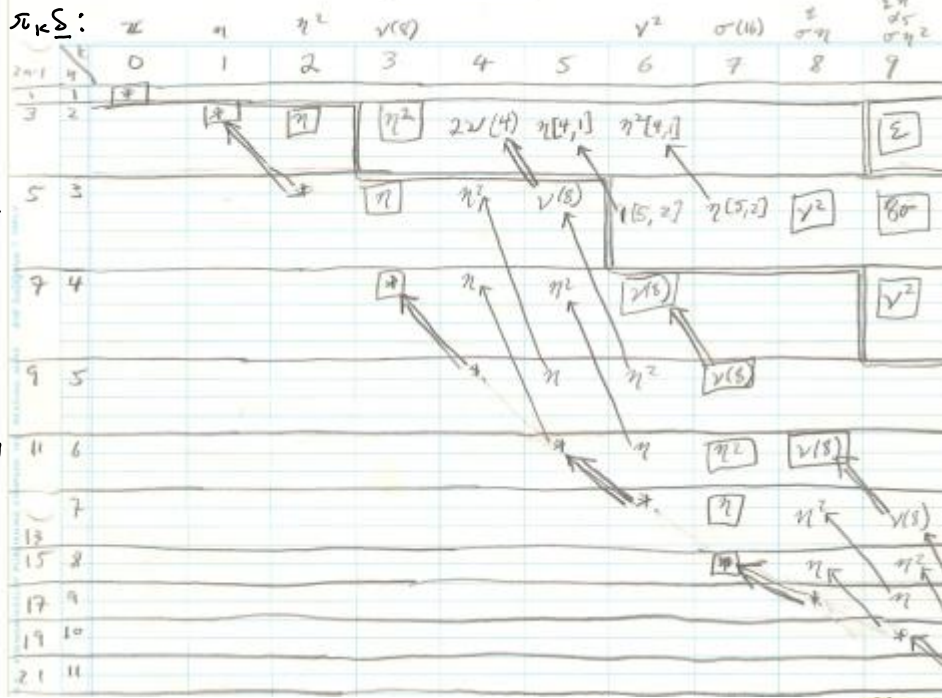


TABLE 6. The GSS for $\pi_{n+2}(S^2)$

n	$\pi_n(L(0)_2)$	$\pi_{n-1}(L(1)_2)$	$\pi_{n-2}(L(2)_2)$	$\pi_{n-3}(L(3)_2)$
0	$1(\infty)$			
1	η	$1(\infty)[2]$		
2		$\eta[2]$ $1[3]$		
3	η^2 2ν ν 4ν			
4		$2\nu[2]$ $\nu[2]$		
5		$\nu[3]$	$1[5, 2]$	
6	ν^2	$\eta^3[4]$ $\eta^2[5]$ $\eta[6]$ $1[7]$		
7	8σ 4σ 2σ σ	$\nu^2[2]$ $\nu[5]$	$\eta[5, 2]$	
8	ϵ $\sigma\eta$	$4\sigma[2]$ $2\sigma[2]$ $\sigma[2]$	$\eta^2[5, 2]$ $\eta[6, 2]$ $1[7, 2]$	
9		$8\sigma[2]$ $\nu^2[3]$	$\nu[5, 2]$ $1[7, 3]$	
10	α_5 $\sigma\eta^2$ $\epsilon\eta$	$\sigma\eta[2]$ $\sigma[3]$		
11		$4\nu[8]$ $\alpha_5[2]$ $8\sigma[4]$	$\eta^2[9, 2]$ $\eta[10, 2]$ $\eta^3[8, 2]$	
12	$\eta\alpha_5$ $\alpha_{8/2}$ $\alpha_{8/3}$ α_8	$\epsilon\eta[4]$ $\alpha_{8/2}[2]$ $\alpha_{8/3}[2]$	$\sigma[5, 2]$ $\nu^2[6, 2]$	





EHPSS

$$\pi_{\kappa} S^{2m+1} \Rightarrow \pi_{\kappa} \underline{S}$$

$$(\star =: \pi)$$

$\eta_k \delta$:

	η	η^2	$\nu(0)$	ν^2	$\sigma(16)$	$\sigma \eta$	$\sigma \eta^2$
201	1	2	3	4	5	6	7
3	2	3	4	5	6	7	8
5	3	4	5	6	7	8	9
7	4	5	6	7	8	9	10
9	5	6	7	8	9	10	11
11	6	7	8	9	10	11	12
13	7	8	9	10	11	12	13
15	8	9	10	11	12	13	14
17	9	10	11	12	13	14	15
19	10	11	12	13	14	15	16
21	11	12	13	14	15	16	17

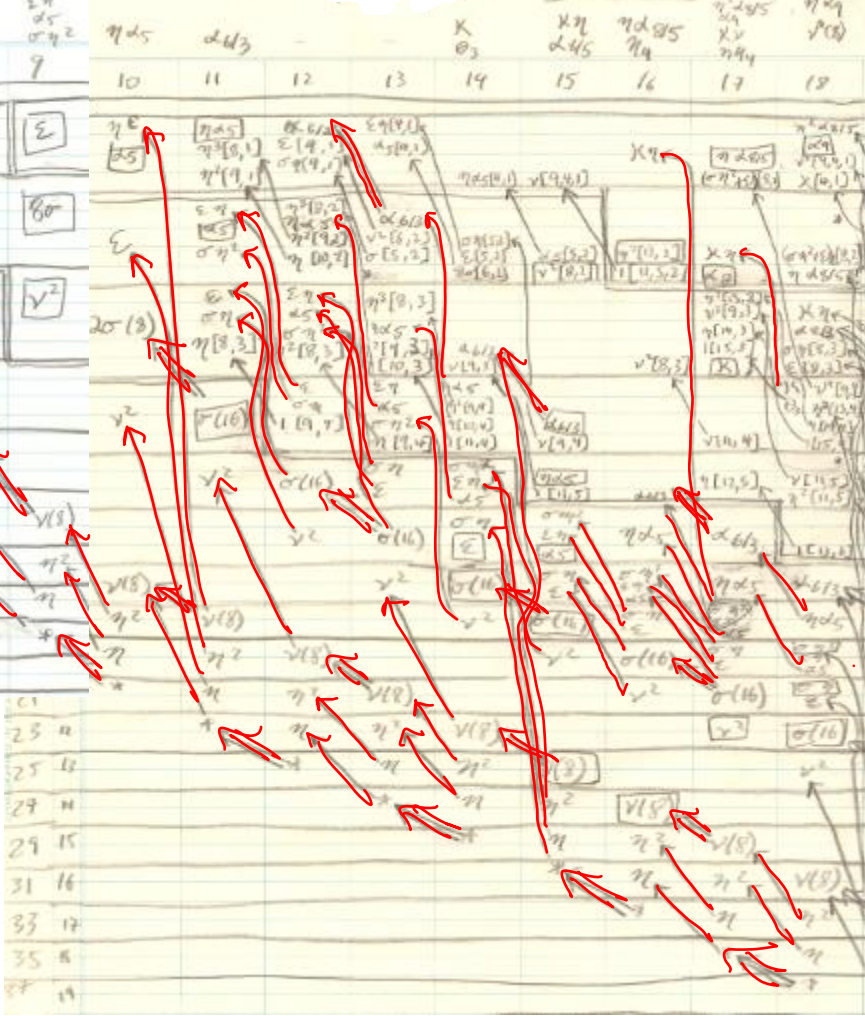
Handwritten notes and arrows on the table:

- Red arrows pointing from η to η^2 and from η^2 to $\nu(0)$ for $k=1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11$.
- Red arrows pointing from $\nu(0)$ to ν^2 for $k=1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11$.
- Red arrows pointing from ν^2 to $\sigma(16)$ for $k=1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11$.
- Red arrows pointing from $\sigma(16)$ to $\sigma \eta$ for $k=1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11$.
- Red arrows pointing from $\sigma \eta$ to $\sigma \eta^2$ for $k=1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11$.

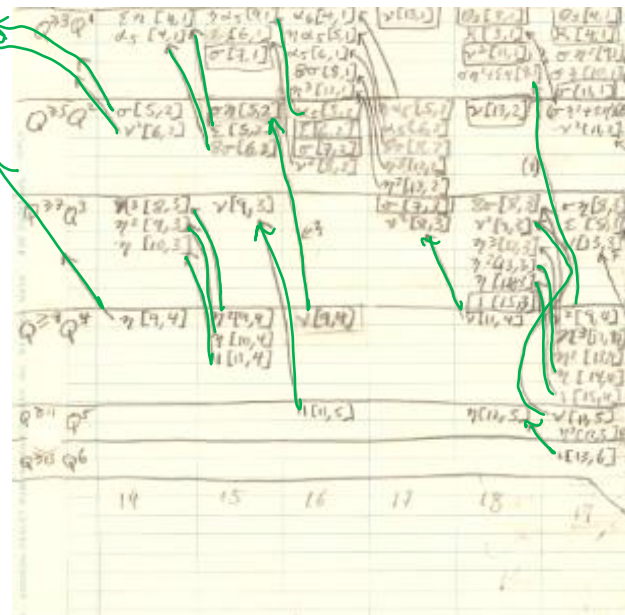
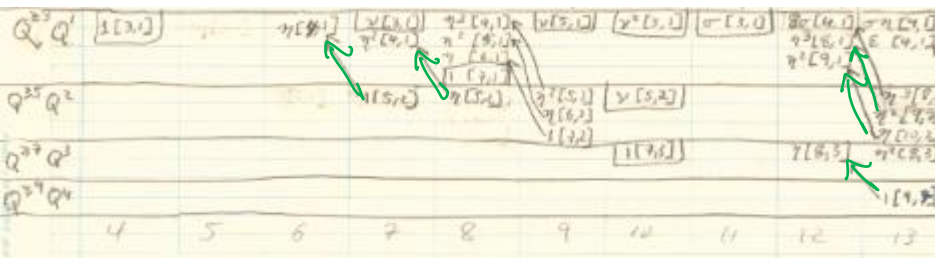
EMPSS

$$\pi_* S^{2m+1} \Rightarrow \pi_* \underline{S}$$

$$(\ast =: \mathbb{Z})$$



$$\pi_x L(1)_{2m+1} \Rightarrow \pi_b L(2)$$



$\pi_{\star} \underline{S}$:

π	η	η^2	$v(\eta)$	v^2	$\sigma(\eta)$	σ^2	σ^3	σ^4	σ^5
0	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18
10	11	12	13	14	15	16	17	18	19
11	12	13	14	15	16	17	18	19	20
12	13	14	15	16	17	18	19	20	21
13	14	15	16	17	18	19	20	21	22
14	15	16	17	18	19	20	21	22	23
15	16	17	18	19	20	21	22	23	24
16	17	18	19	20	21	22	23	24	25
17	18	19	20	21	22	23	24	25	26
18	19	20	21	22	23	24	25	26	27
19	20	21	22	23	24	25	26	27	28
20	21	22	23	24	25	26	27	28	29
21	22	23	24	25	26	27	28	29	30

η_{45}	ω_{43}	-	-	X_{θ_3}	ω_{45}	η_{49}	η_{45}	X_{η}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}	η_{49}
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FHPSS

$$\pi_{\star} S^{2m+1} \Rightarrow \pi_{\star} \underline{S}$$

($\star =: \pi$)

$$\pi_x L(2)_{2n+1} \Rightarrow \pi_x L(3)$$

Handwritten notes on lined paper showing a sequence of numbers 11 to 21. Above the numbers are boxed pairs of numbers: $[2, 1]$ above 11, $[4, 2]$ above 16, $[5, 1]$ above 18, and $[1, 3]$ above 19. To the right of the sequence, there are more boxes containing $[1, 3, 2]$ and $[1, 1, 2]$, with arrows pointing from the boxed pairs to these larger boxes. There are also some scribbles and other markings on the paper.

