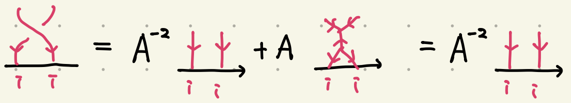
Stated and Marked Skein Algebra

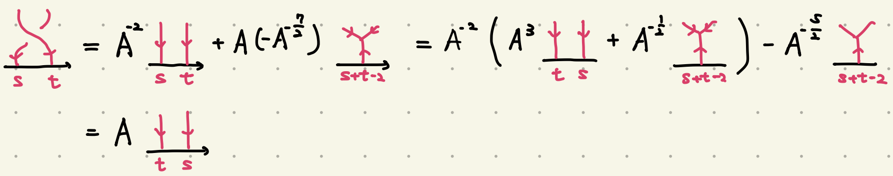
Wataru Yuasa

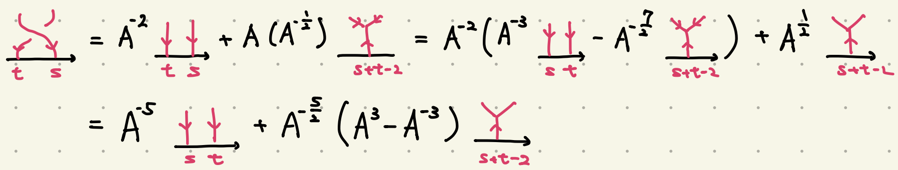
braiding for sl_3

$i \in \Pi = \{1,2,3\}$



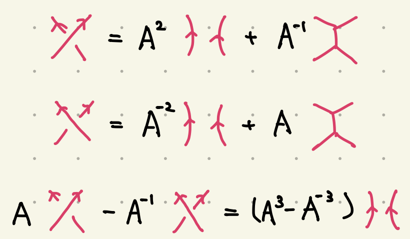
$s<t$



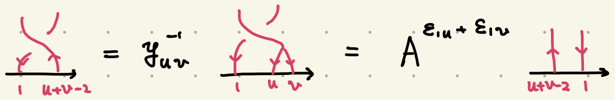


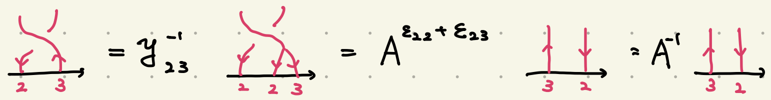
define $\varepsilon_{ii} = -2$

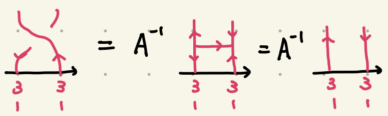
$\varepsilon_{st} = 1 \quad (s<t)$

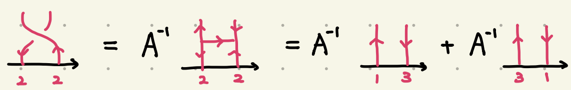


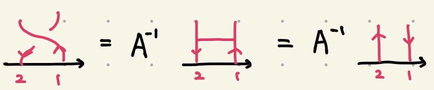
$u+v-2$	(u,v)
1	(1,2)
2	(1,3)
3	(2,3)

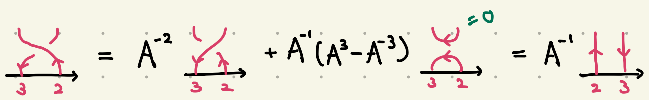




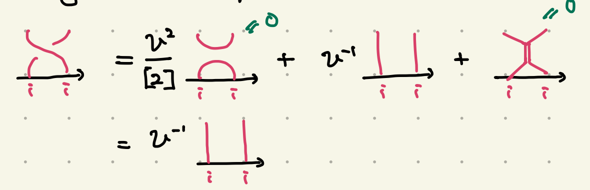


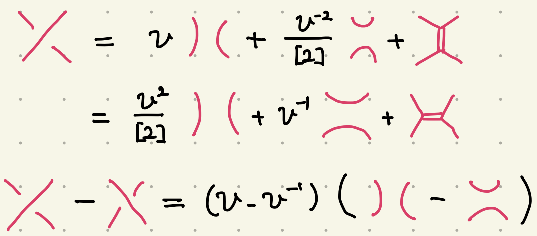




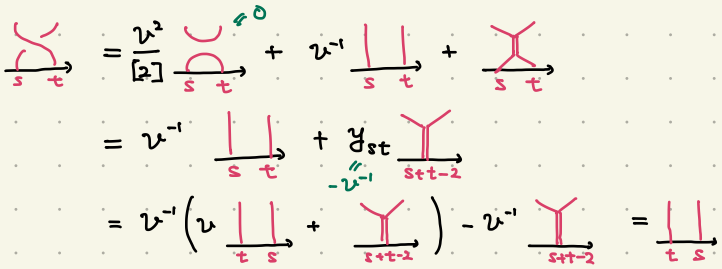


braiding for sp_4

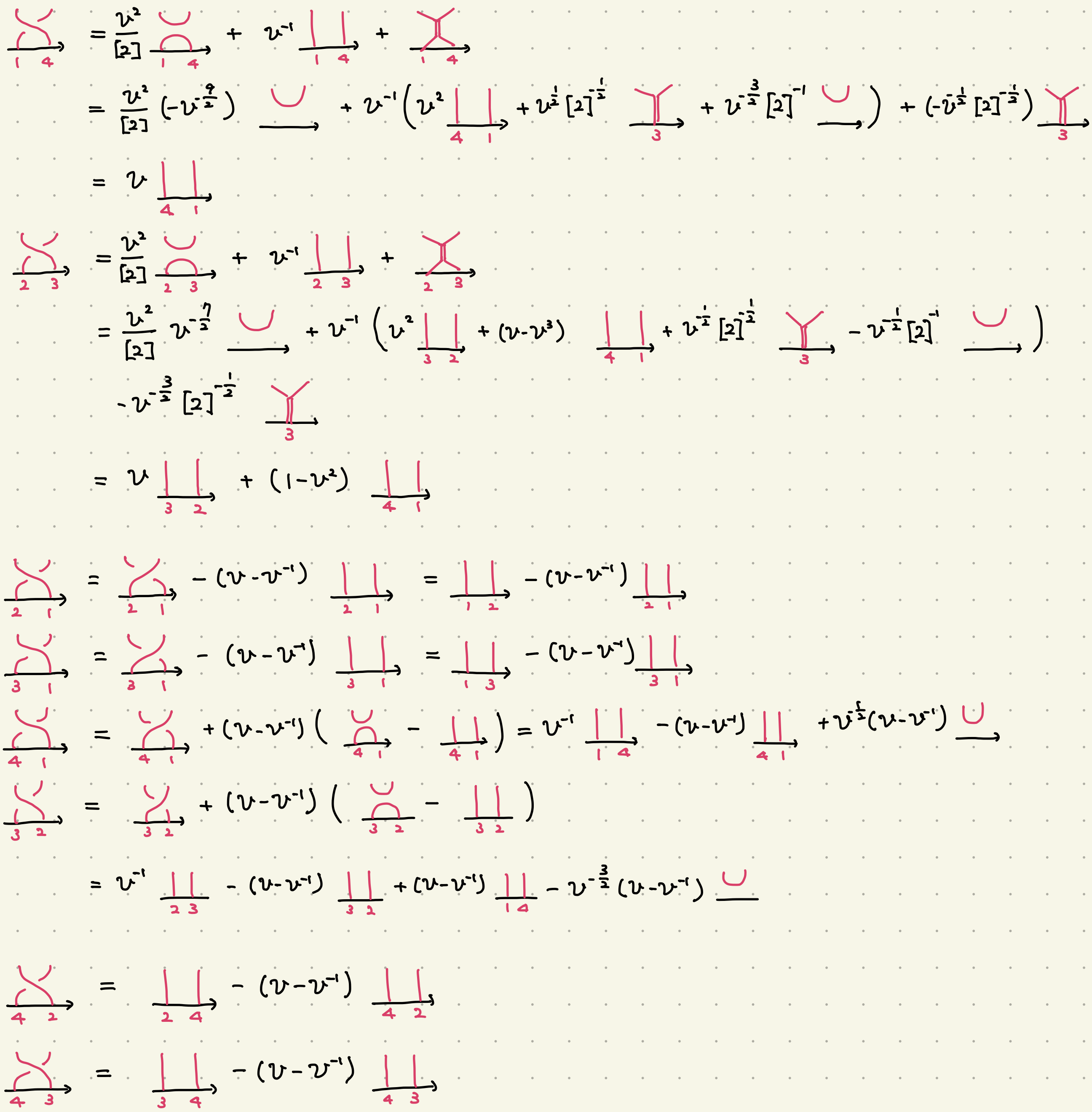




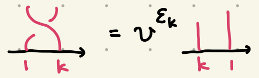
$s+t \neq 5$, $s<t$



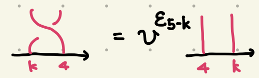
$s+t-2$	(s,t)
1	(1,2)
2	(1,3)
3	(1,4) (2,3)
4	(2,4)
5	(3,4)



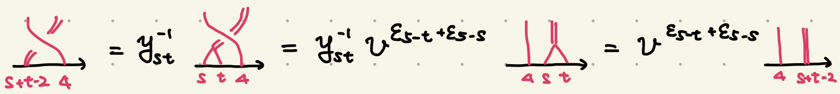
From the above.

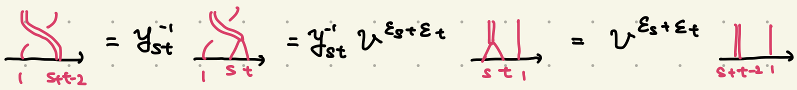


$(\varepsilon_k)_{k\in\pi} = (-1, 0, 0, 1)$

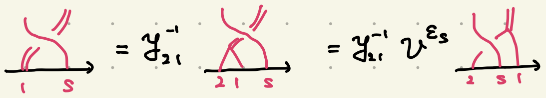


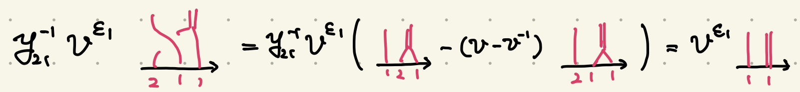
$s+t-2$	(s,t)
1	(1,2)
2	(1,3)
3	(1,4) (2,3)
4	(2,4)
5	(3,4)

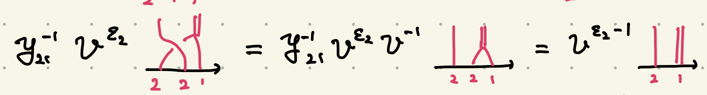


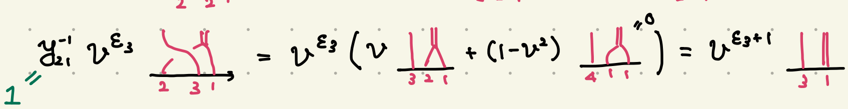


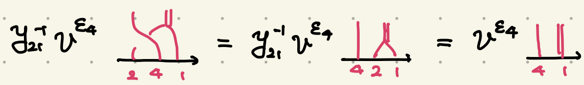
$(\eta_t) = (-1, -1, 0, 1, 1)$



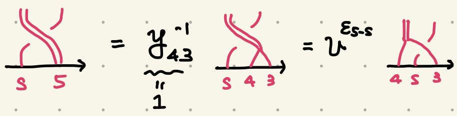


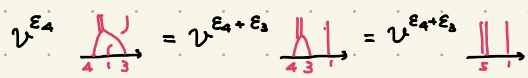


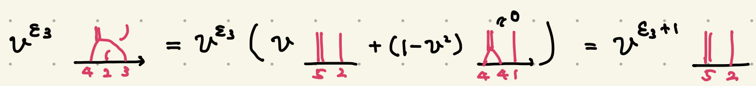


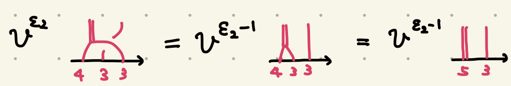


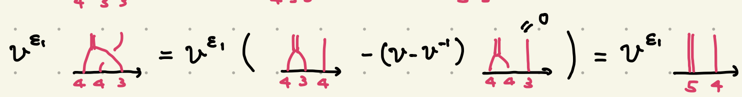
$\varepsilon''_s = (-1, -1, 1, 1)$



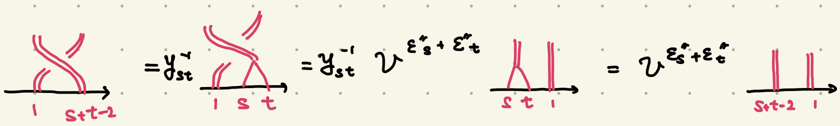




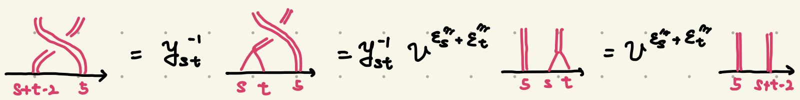




$\varepsilon'''_s = (1, 1, -1, -1)$

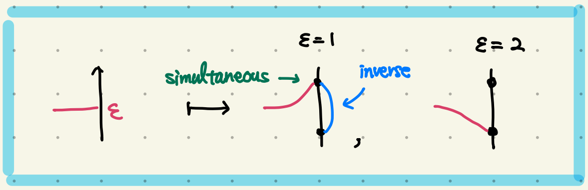


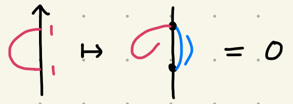
$\rightsquigarrow (-2, 0, 0, 0, 2)$

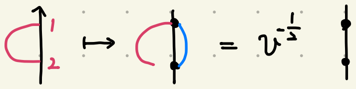


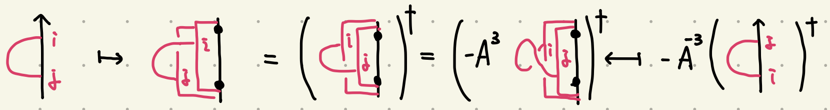
$\rightsquigarrow (2, 0, 0, 0, -2)$

⑪ well-definedness. $\mathcal{S}^{st}_{sl_2} \longrightarrow \mathcal{S}^{mk}_{sl_2}$

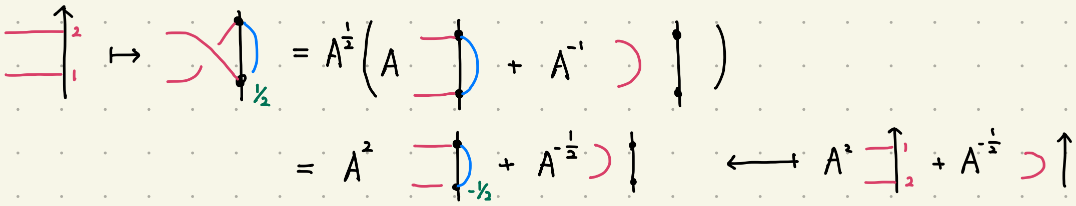




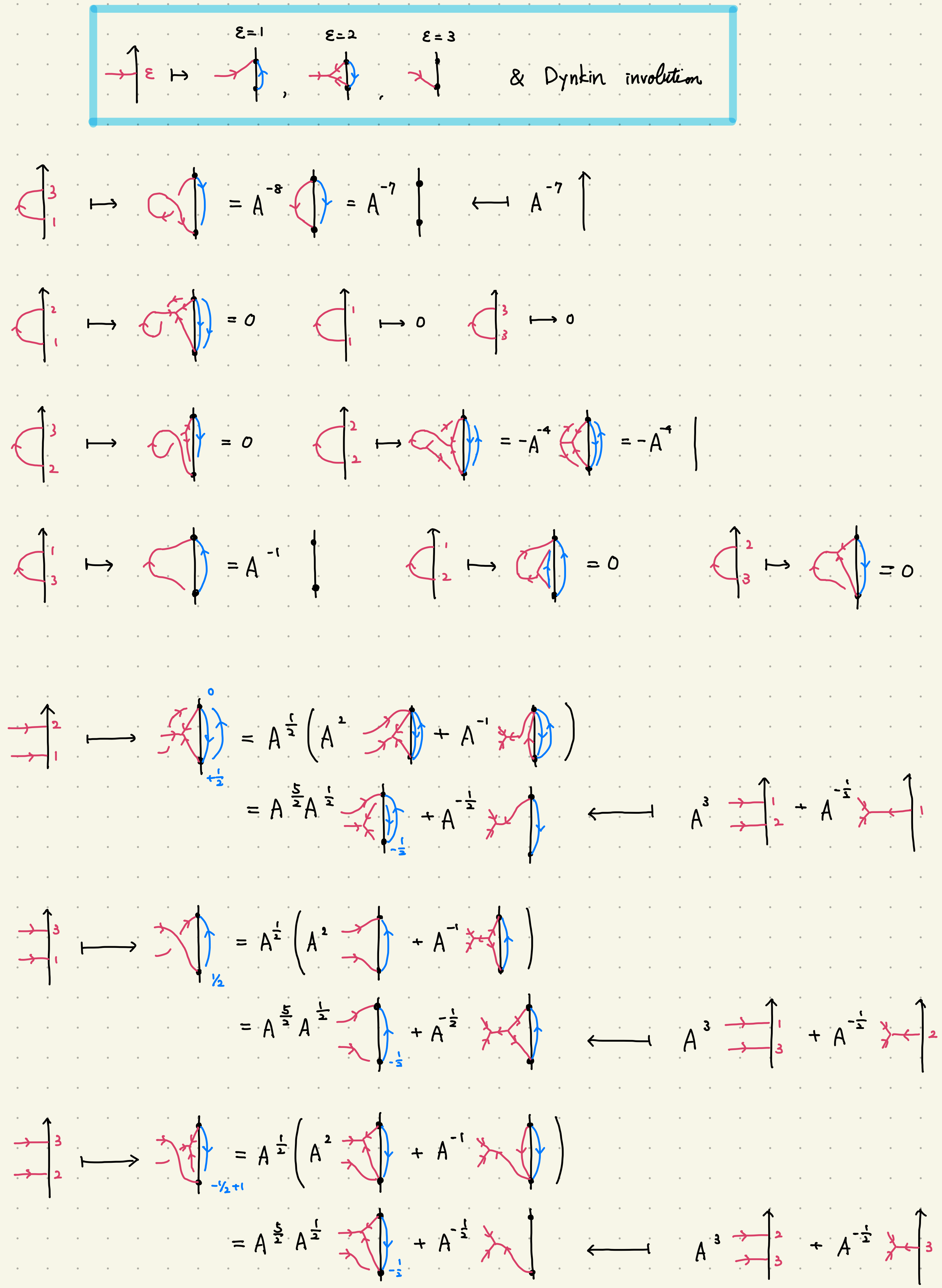




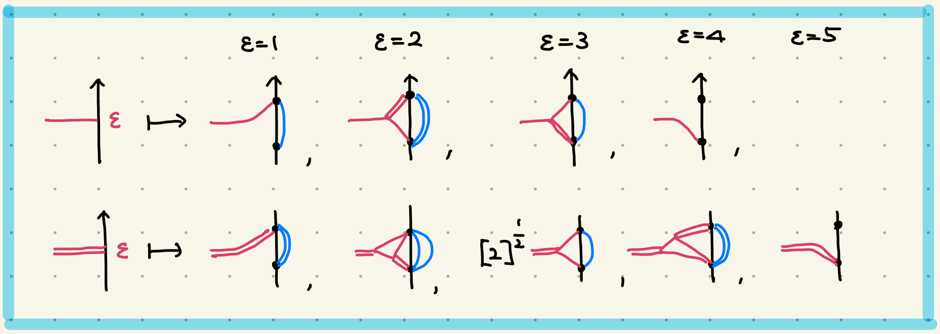
$\therefore\ x_{ji} = -A^{-3} x_{ij}^{\dagger}$

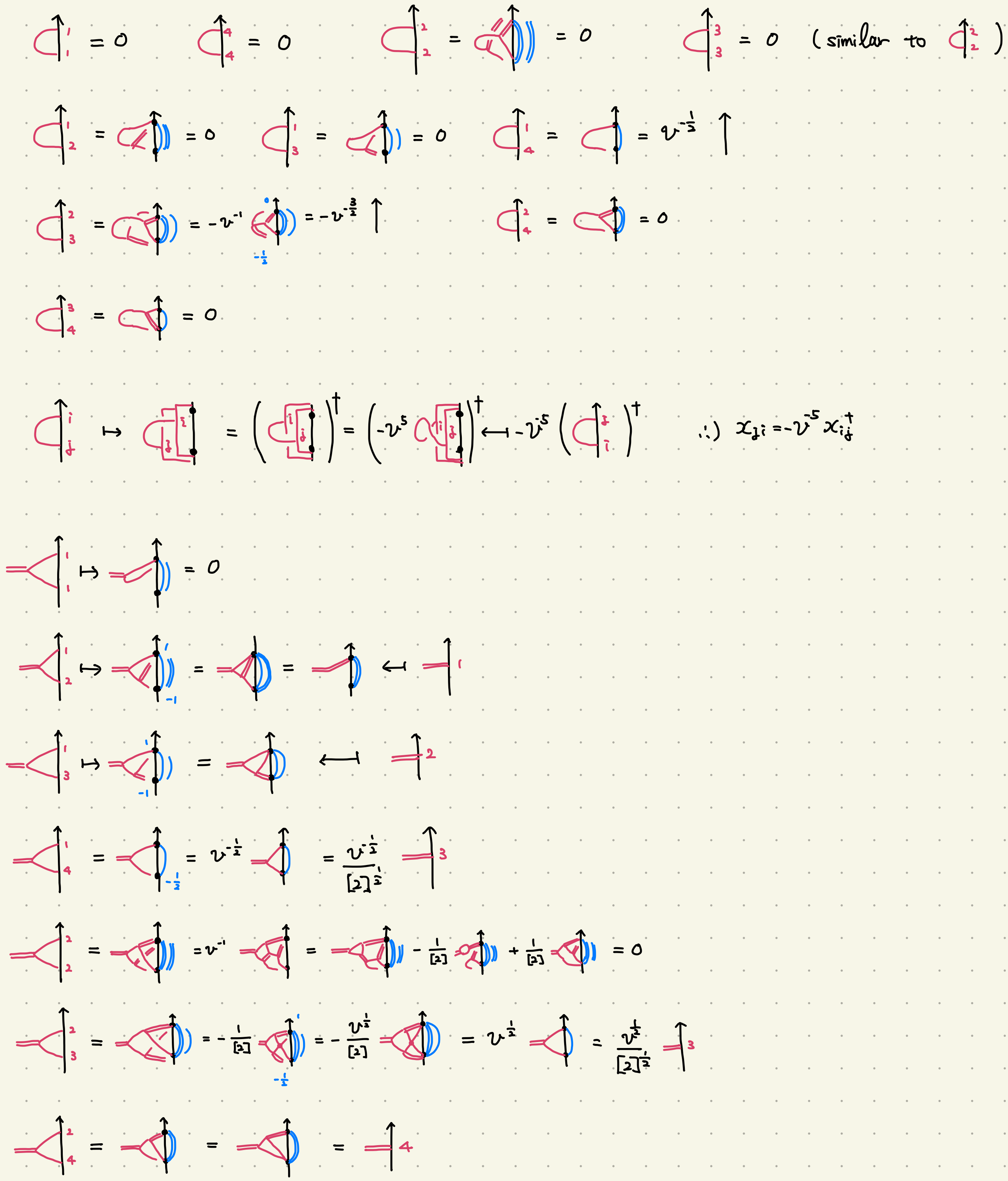


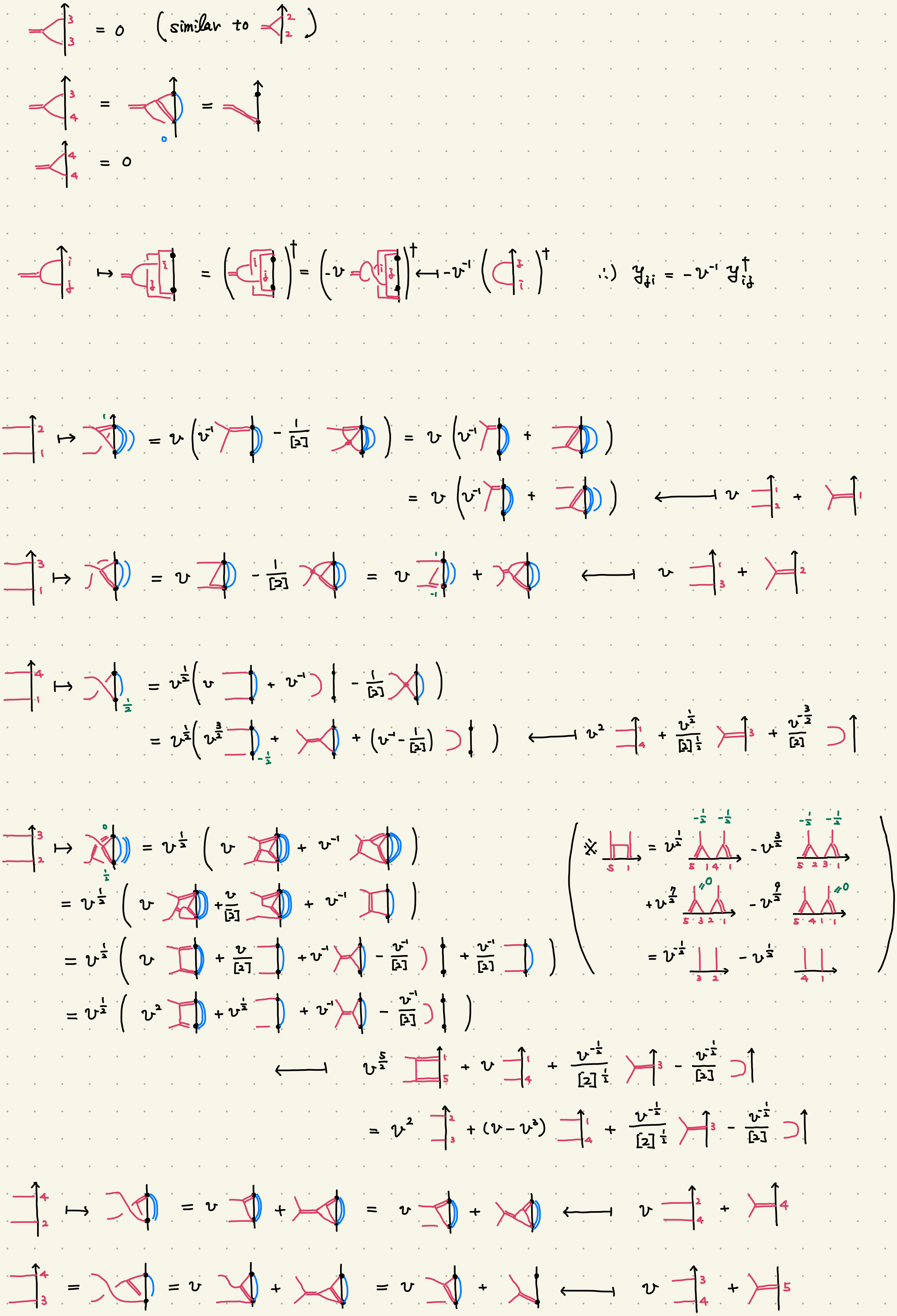
① well-definedness : $\mathcal{S}^{st}_{sl_3} \longrightarrow \mathcal{S}^{mk}_{sl_3}$



② well-definedness : $\mathcal{S}^{st}_{sp_4} \longrightarrow \mathcal{S}^{mk}_{sp_4}$






= 0 (similar to
= 0
∴) $y_{ji} = -v^{-1} y_{ij}^{\dagger}$