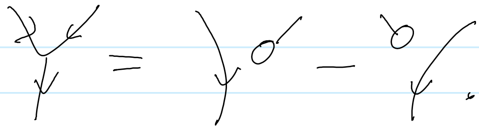
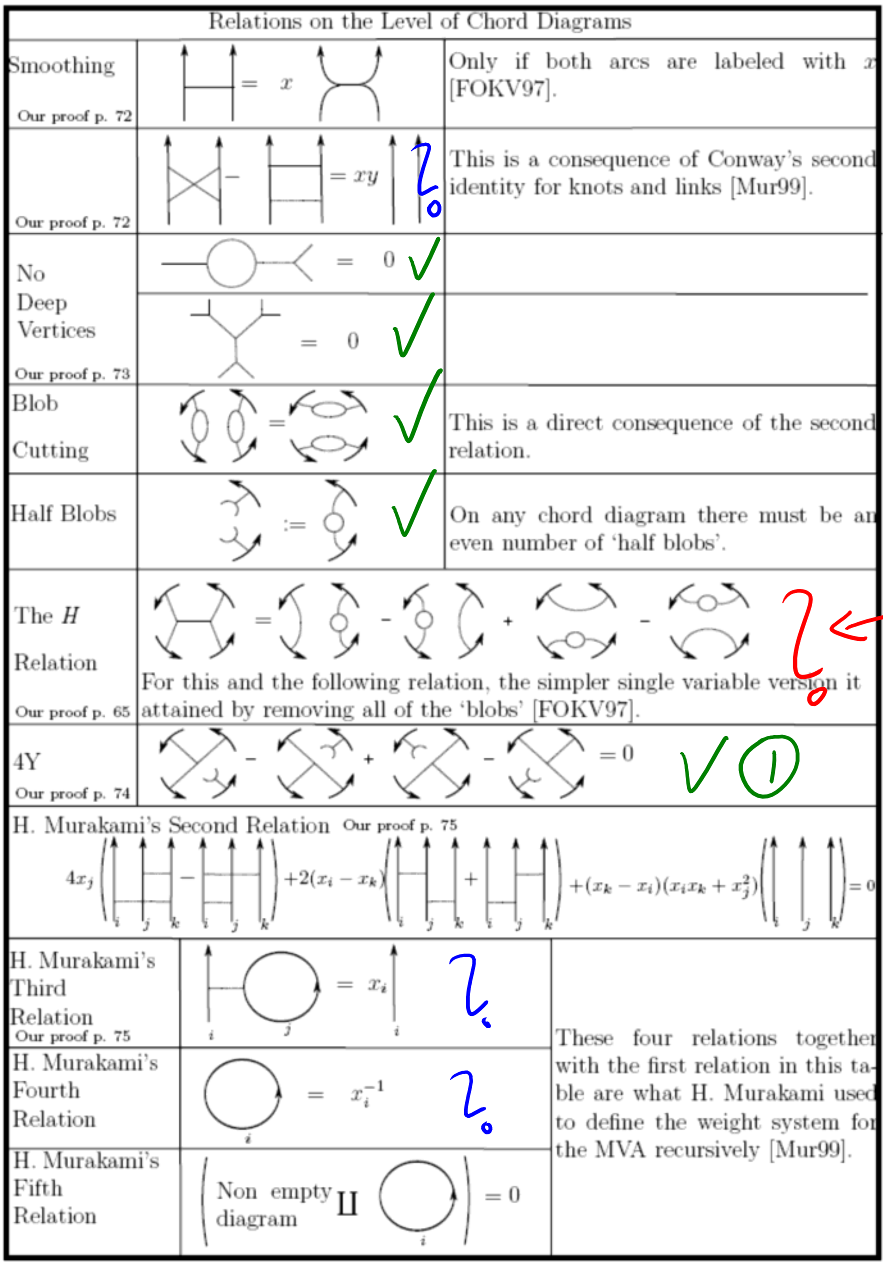
Do All u-Alexander Relations Follow from w-Alexander Relations?

August-23-10 9:47 AM

The w-Alexander relation is 

Does it imply all the relations in Jana's Thesis?



Relations on the Level of Chord Diagrams		
Smoothing (Our proof p. 72)	$= x$	Only if both arcs are labeled with x [FOKV97].
(Our proof p. 72)	$- \quad = xy$?.	This is a consequence of Conway's second identity for knots and links [Mur99].
No Deep Vertices (Our proof p. 73)	$= 0$ ✓	
	$= 0$ ✓	
Blob Cutting	$=$ ✓	This is a direct consequence of the second relation.
Half Blobs	$:=$ ✓	On any chord diagram there must be an even number of 'half blobs'.
The H Relation (Our proof p. 65)	$= \quad - \quad + \quad -$? For this and the following relation, the simpler single variable version it attained by removing all of the 'blobs' [FOKV97].	
4Y (Our proof p. 74)	$- \quad + \quad - \quad = 0$ ✓ 1	
H. Murakami's Second Relation (Our proof p. 75)	$4x_j(\ - \ ) + 2(x_i - x_k)(\ + \ ) + (x_k - x_i)(x_i x_k + x_j^2)(\ ) = 0$	
H. Murakami's Third Relation (Our proof p. 75)	$= x_i$?.	These four relations together with the first relation in this table are what H. Murakami used to define the weight system for the MVA recursively [Mur99].
H. Murakami's Fourth Relation	$= x_i^{-1}$?.	
H. Murakami's Fifth Relation	$\left(\text{Non empty diagram} \amalg \bigcirc\right) = 0$	

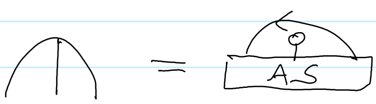
http://www.math.toronto.edu/~jfa/

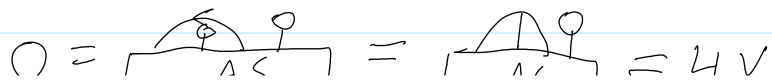
Thesis page 56.

Might be new!

wrong as stated there! See paste below.

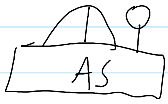
Satisfied by linking numbers.

so 

1: 

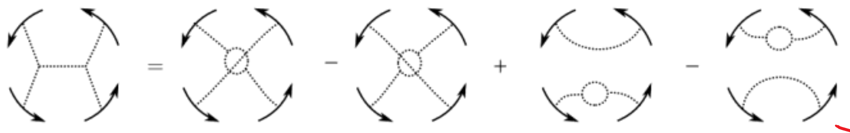
1:

$O =$ 

$=$ 

$= 4Y$

Pasted from Jana's Thesis, page 65:



Added Sep 18, 2014
sign here may still be wrong.