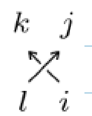
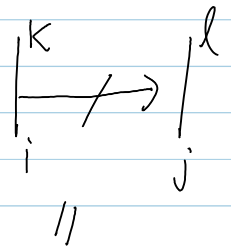
The Weight System of the MVA

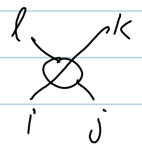
August-01-10
9:51 AM

Some Convention: X_p:  X_m:  } from the Sandbjerg handout.



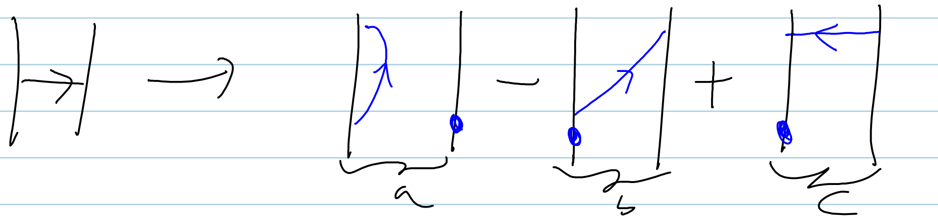
: $ar[i,j,k,l] =$ deg 1 of

$Xp[j,k,l,i] - I$ so it is



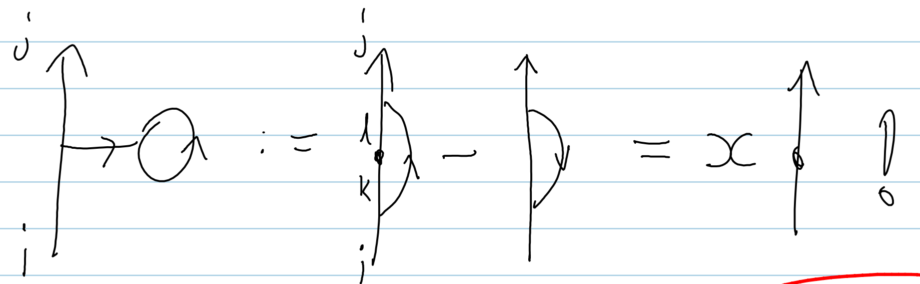
```
pA[SVXp[i_, j_, k_, l_]] := AHD[
  (t[i] == t[k]) (t[j] == t[l]), {i, j}, W[k, l],
  -W[i, k] + t[j] W[i, k] + W[i, l] - t[i] W[i, l] - W[k, l] + t[i] W[k, l]
  ]
```

so



$$aa=0 \quad ba=t_1 a \quad ca=0$$
$$ab=0 \quad bb=t_1 b \quad cb=0$$
$$ac=0 \quad bc=0 \quad cc=t_1 c$$

$$(a-b+c)^n = (-b)^{n-1}(a-b)+c^n$$
$$\underset{\text{up to signs}}{=} t_1^{n-1}(a-b+c)$$

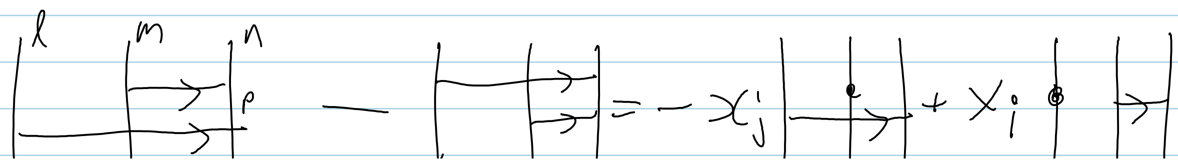


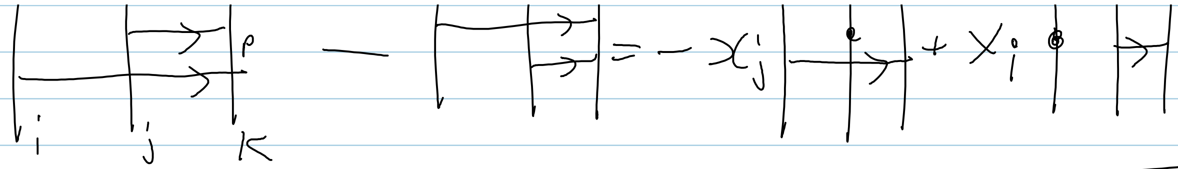
pA doesn't behave well under strand reversals!

Possibly, there is no "canonical" extension of MVA to w-knots, so there's no point looking for its weight system.

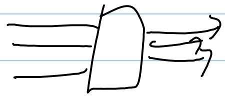
Added Feb 20, 2012: Was this red statement about w-knots or about w-tangles? Perhaps there is a canonical wMVA for knots yet not for tangles?

The Archibald relation:

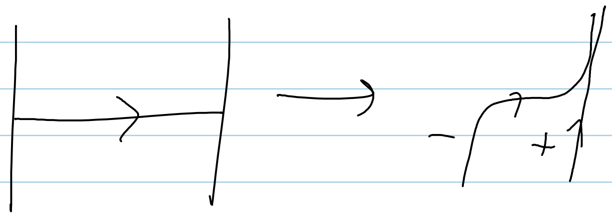




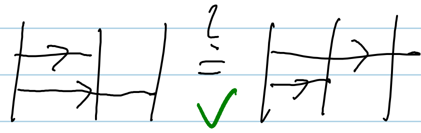
Is there a "dimensional relation" like

 $= 0$? (so far no)

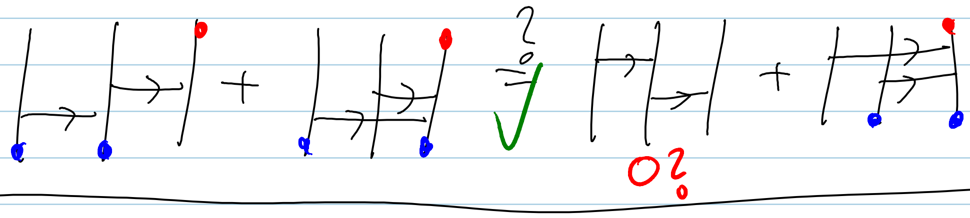
The "go with the flow" W.S.:



OC:



4T?



<u>Conjecture</u> WMVA is supported on "funnel" diagrams, and it value is ± 1 according to the parity of the number of "strand hops".

with x_i's determined by tails.

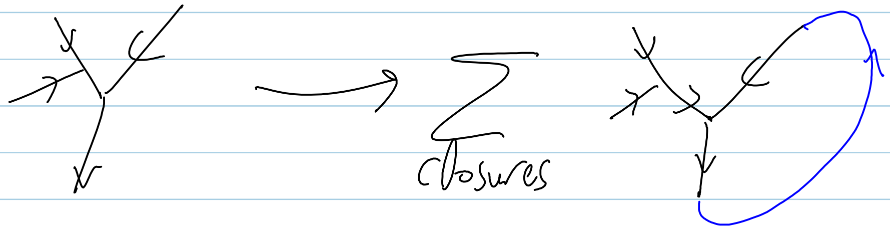
That end on one of their two starting strands.

False! According to WSofMVA.nb. ? No 4T yet

<u>Important</u> The WS of the MVA reduces degree by 1; W(degree k diagram) = (Polynomial of deg $k-1$).
In particular, it seems that the constant term

of the MVA is the total linking number.

Q Could it be that W is defined via



?