

Dror Bar-Natan: Classes: 2003-04: Math 1350F - Knot Theory:

## Homework Assignment 8: Primitives; $W_L$ is well defined

Assigned Thursday November 6; due Thursday November 13 in class.

**To be handed in.** Recall that the primitives of  $\mathcal{A}$  are the connected diagrams. Prove that they generate  $\mathcal{A}$  — that every element of  $\mathcal{A}$  is a sum of products of primitives.

**Recommended for extra practice.** Check that indeed  $W_{L, \langle \cdot, \cdot \rangle, R} : \mathcal{A} \rightarrow \mathbb{F}$  is well defined. (I.e., does not depend on the all choices (especially the bases) and vanishes on AS, STU and IHX).