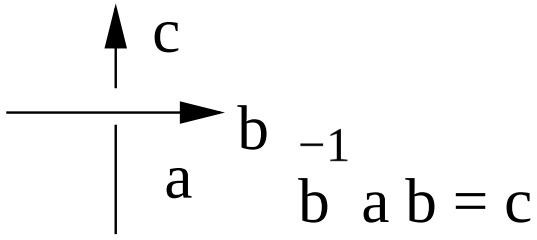
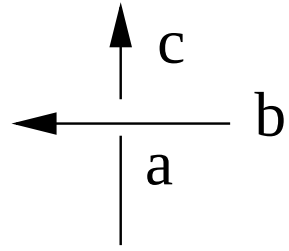
Fundamental Group

For an oriented virtual knot diagram, K, assign labels to each edge of the diagram. The fundamental group of the virtual knot diagram is the free group generated by these labels modulo relations deteremined by the classical crossings. We denote this diagrammatic group as: $\pi_1(K)$.

The relations obtained from the classical crossings are:

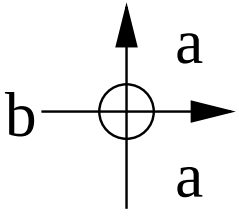


$b^{-1} a b = c$



$bab^{-1} = c$

Virtual crossings contribute no relations.



There is no relation between a and b.

Note that $\pi_1(K)$ is invariant under the Reidemeister and virtual Reidemeister moves.