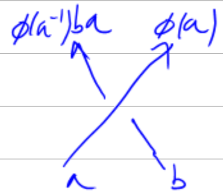
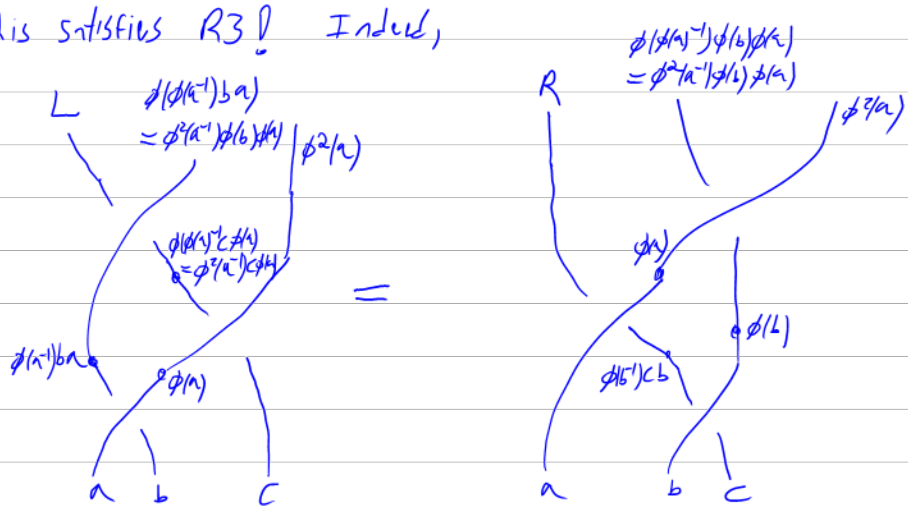
If G is a group and $\phi : G \to G$ is an automorphism of G, we can define a representation of the braid group B_n on G^n by



This satisfies R3! Indeed,



where

$$L = \phi((\phi(a^{-1})ba)^{-1}) \cdot \phi^2(a^{-1})c\cancel{\phi(a)} \cdot \cancel{\phi(a^{-1})}ba = \phi(a^{-1}b^{-1}\phi(a)) \cdot \phi^2(a^{-1})cba$$

$$= \phi(a^{-1})\phi(b^{-1})\cancel{\phi^2(a)}\cancel{\phi^2(a^{-1})}cba = \phi(a^{-1})\phi(b^{-1})cba = R$$