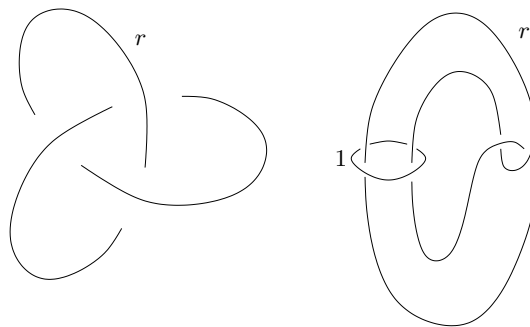


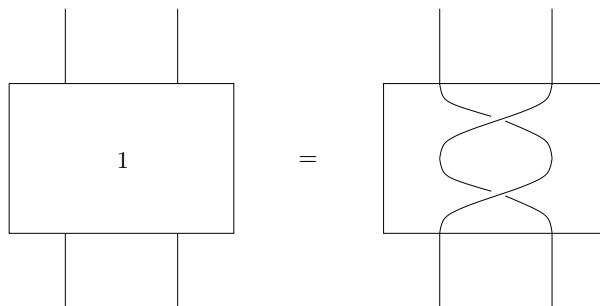
Geometrische Topologie

Übungsblatt 11

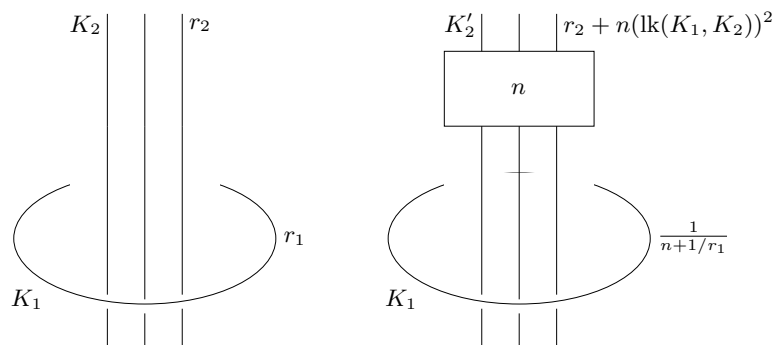
Aufgabe 1. Show that the following surgery diagrams produce diffeomorphic 3-manifolds.



Aufgabe 2. In the following diagrams a box labelled with $n \in \mathbb{Z}$ denotes an n -fold full twist of the strands passing through the box, e.g.



Show that the following surgery diagrams are equivalent.



Aufgabe 3. Show that the presentations

$$\langle x, y \mid xyx = yxy, yx^2y = x^5 \rangle$$

and

$$\langle a, b \mid a^7 = b^3 = (ba)^2 \rangle$$

describe isomorphic groups.