

Unknotting Operations of Polygonal Type

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1. Introduction.

In this paper, we consider about knots and links in the 3-sphere S^3 .

A 3-gon move is a local move on a link diagram as indicated in Figure 1.1. In [3], Y. Nakanishi showed that a Δ -unknotting operation can be realized by a finite sequence of 3-gon moves. A Δ -unknotting operation is a local move on a diagram as shown in Figure 1.2, and it is a kind of unknotting operation ([2]). Hence a 3-gon move is a kind of unknotting operation. We generalize the notion of 3-gon moves to n -gon moves as shown in Figure 1.3. In section 2, we obtain some results about n -gon moves which are similar to those about $H(n)$ -moves in [1]. For example, we will show that for given any knot K , there exists an integer n such that K can be transformed into a trivial knot by one n -gon move.

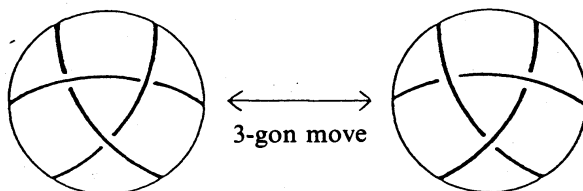


FIGURE 1.1.

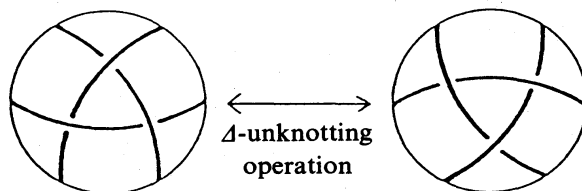


FIGURE 1.2.