

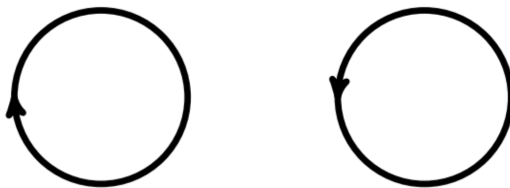
Algebraic Invariants in Knot Theory

Practicals 3

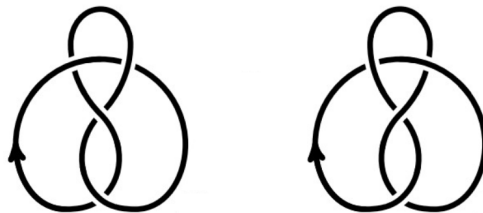
Filippo Spaggiari

18 October 2022, Prague

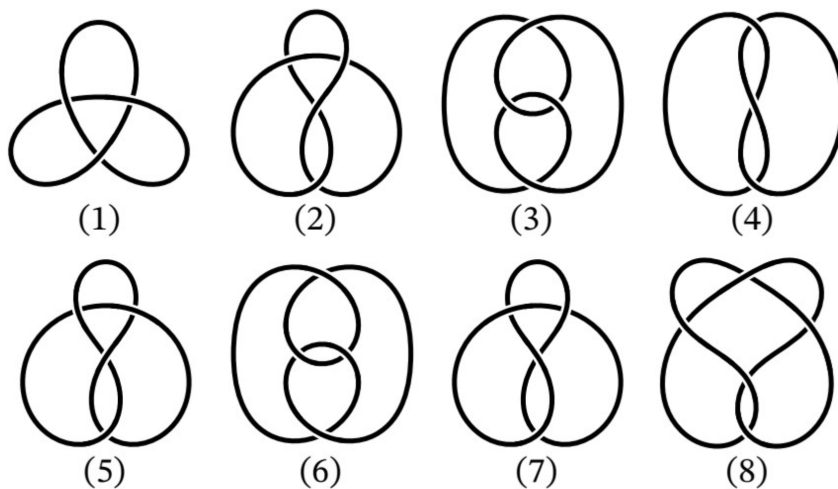
Exercise 1 (S 1.1). Using Reidemeister moves, show that the two following diagrams represent equivalent knots.



Exercise 2 (S 1.2). Using Reidemeister moves, show that the two following diagrams represent equivalent knots.



Exercise 3 (S 1.4 rev). Using Reidemeister moves, determine which of the following diagrams represent equivalent knots.



Exercise 4 (4.5.2). Suppose that we reverse the orientation of a knot K_2 , which will be denoted by $-K_2$. Show that

$$\text{lk}(K_1, -K_2) = -\text{lk}(K_1, K_2).$$

Exercise 5 (4.5.6). Let L^* be the mirror image of a link L . Show that

$$\text{lk}(L^*) = -\text{lk}(L).$$

Exercise 6. Compute the writhe of the following knots.

