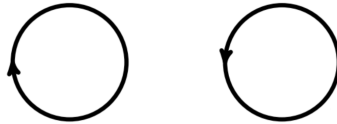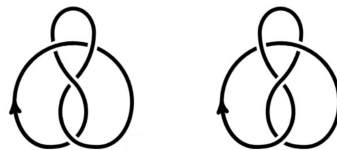# Reidemeister moves & Linking number

Exercise 1:   Using only Reidemeister moves show that the following directed knots are equivalent

Exercise 2:   Using only Reidemeister moves show that the following directed knots are equivalent

Exercise 3:   Show that the linking number is always an integer.

Exercise 4:   Suppose that we reverse the orientation of K_2, which we will denote by $-K_2$. Show that

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

Exercise 5:   Let L^* be mirror image of a link L. Show that

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

Exercise 6:   Show that no two of the following links are equivalent.