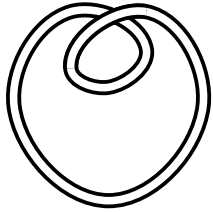
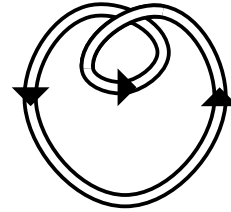


# The writhe of an oriented knot or link

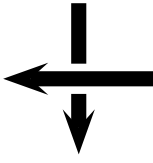


No orientation:

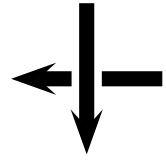
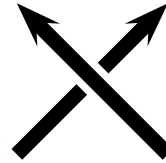


With an orientation:

The **writhe** is calculated by looking at all the **crossings**: every time we have a **positive crossing** we add **one** to our count; every time we have a **negative crossing** we add **minus one** to our count.

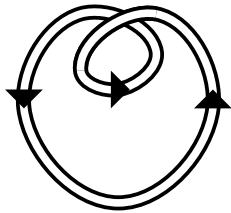


Positive crossings:



Negative crossings:

So we calculate the writhe of the oriented knot above:



Pick out the only crossing to consider:



This is a negative crossing, so the writhe is  $-1$ .

Can you find the writhe of the following knots and links? You will have to choose an orientation first!

