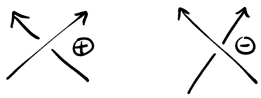
LECTURE 3

- HW01 due tonight! (very short)
- I'll be away next Wed & Friday — Dr. Weng & Prof. Wein will cover

Q. Is # well-defined as a binary operation on the set of knots? Why/why not?

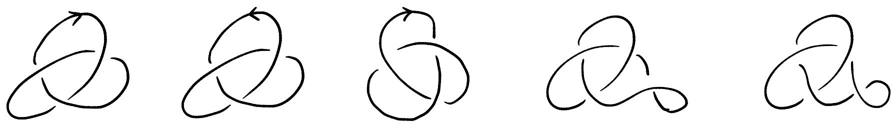
oriented knots/links

- "orientation" of a knot
- sign of a crossing:

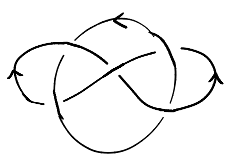


There are other conventions, esp. in other fields. Use the right-hand rule.

- writhe of diagram; how does writhe change under Reid. moves?

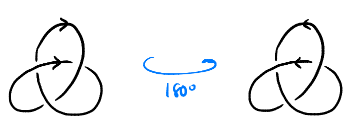


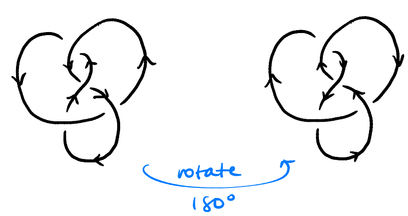
- linking number: don't confuse with writhe
  - this is a numerical invariant of links (why?)



- how much does it matter where you do the connected sum (Proof with helpful cartoon)

defn. A knot K is invertible if $(K, o) \sim (K, \bar{o})$, where $o, \bar{o}$ are opposite orientations on the knot





defn A knot is amphichiral if $K \sim m(K)$ where $m(K)$ is the mirror knot

eg. m(Right-handed trefoil) = left-handed trefoil $K \not\sim m(K)$

but m(Figure 8) = Figure 8

/