

A Quick Introduction to Knots and Jones Polynomials

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DEFINITIONS

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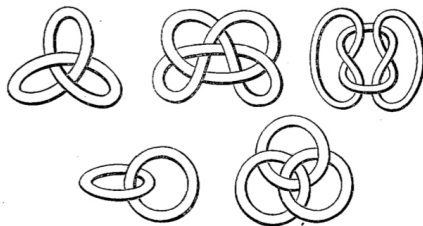


Figure: Illustrations of knots and links, including a trefoil knot, top left, in an 1869 paper by Lord Kelvin on his knotted vortex theory of atoms.

KNOT EQUIVALENCE

Two knots are equivalent if
or more rigorously, ambient isotopy

REIDEMEISTER MOVES

KNOT COMPLEMENTS

A theorem Gordon and Luecke

DIAGRAMMATIC INVARIANT

KAUFFMAN BRACKET

KAUFFMAN BRACKET: AN EXAMPLE

WRITHE OF A KNOT/LINK

HOPF LINK

LEFT TREFOIL KNOT

RIGHT TREFOIL KNOT

MIRROR IMAGE

Theorem

The Jones polynomial of the mirror image \bar{L} of an oriented link L is the conjugate under $t \leftrightarrow t^{-1}$ of the polynomial of L .

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Proof.

asd

Fail for palindromes

CONNECTED SUM

Fail for palindromes

YET ANOTHER APPROACH

Skein Relation

YET ANOTHER ANOTHER APPROACH

Skein Relation

YET MORE APPROACHES

Skein Relation

CONJECTURE

COLOURED JONES POLYNOMIALS

Whatever it means

CONJECTURES

AJ Conjecture

Volume Conjecture