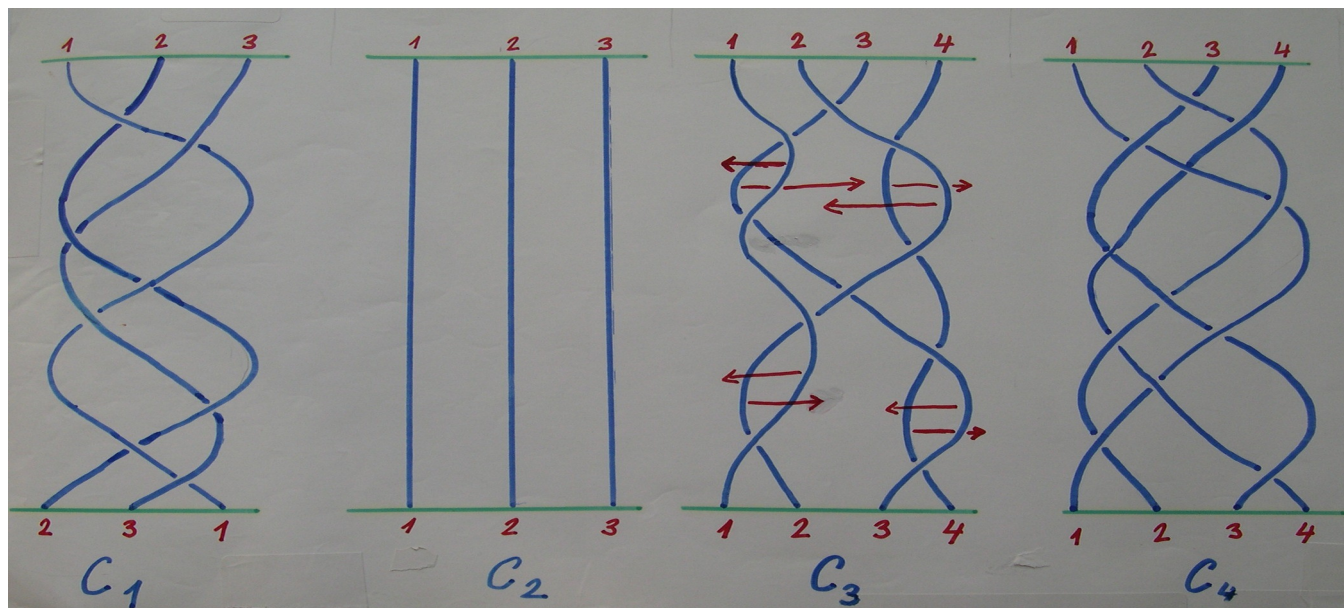
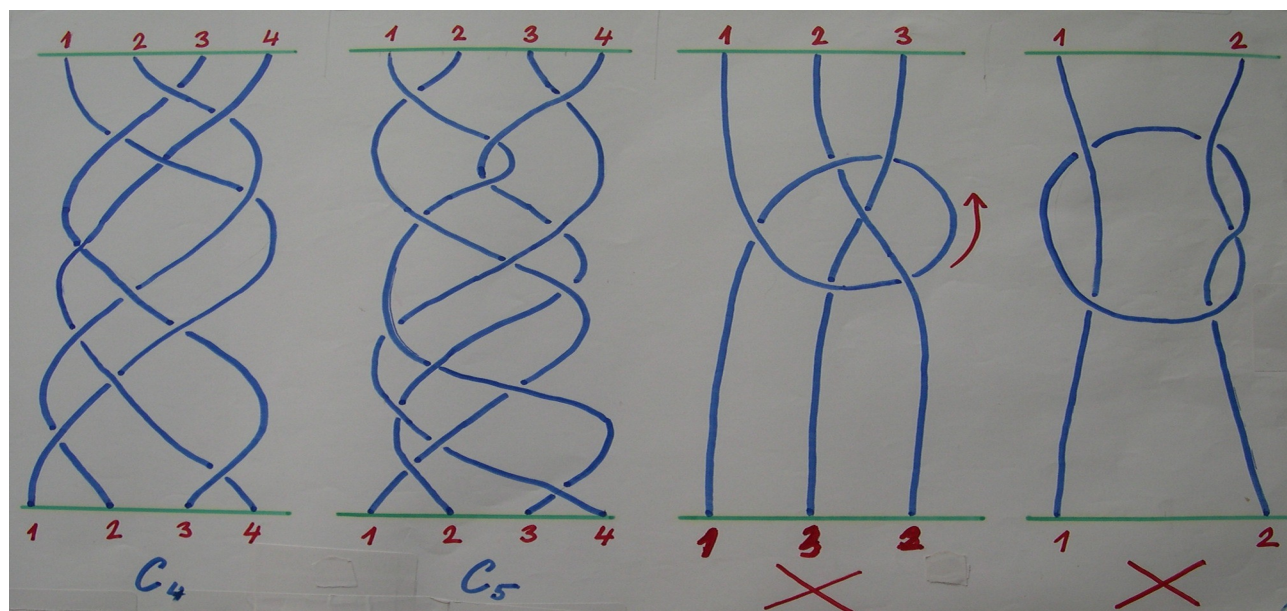


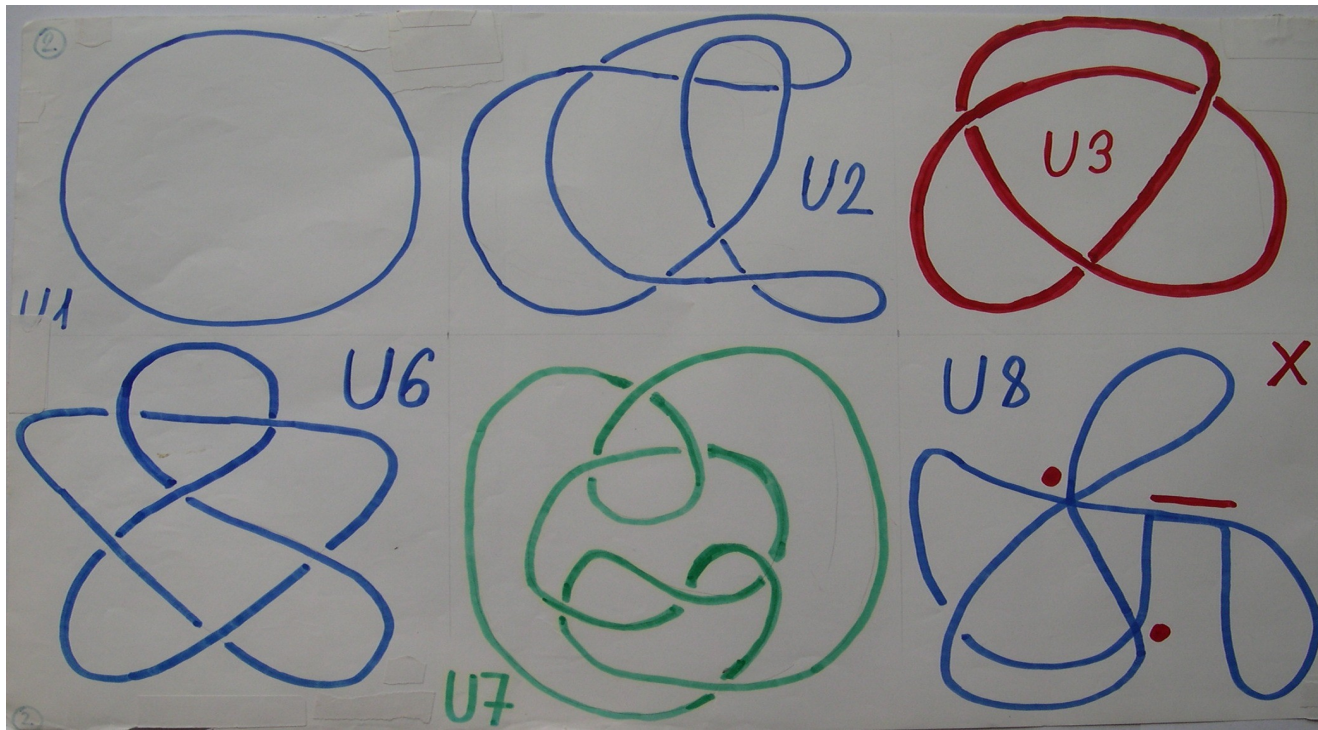
COPÁNKY, UZLY, SPLETENCE

BRAIDS, KNOTS, LINKS

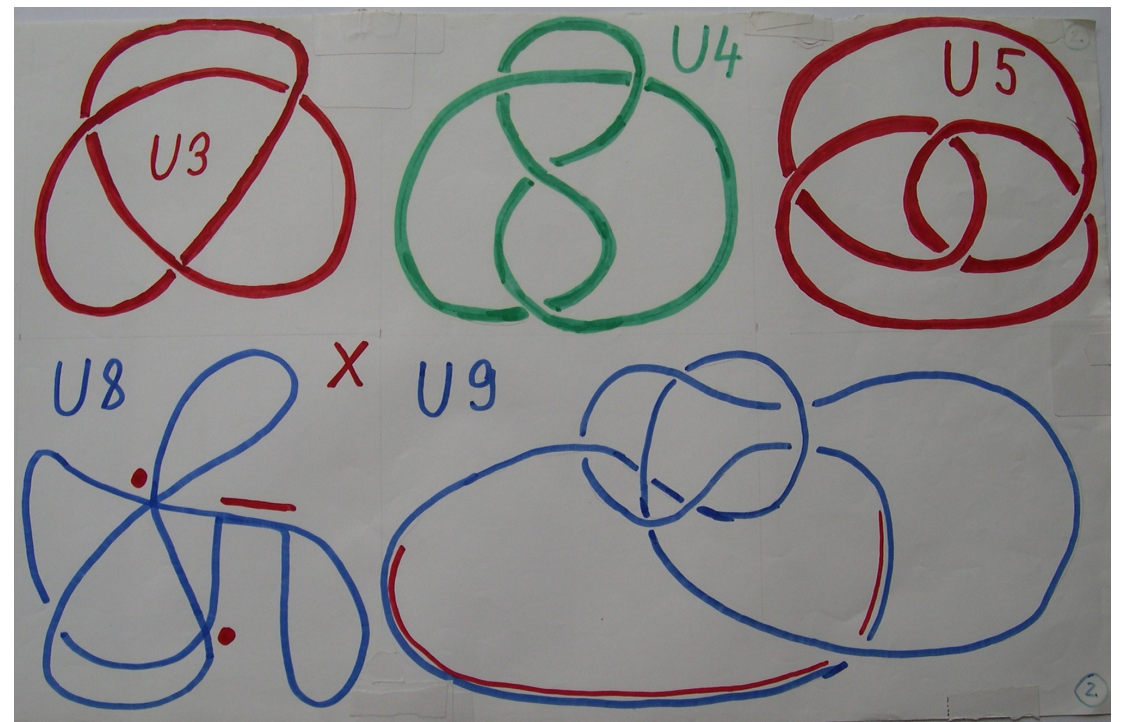


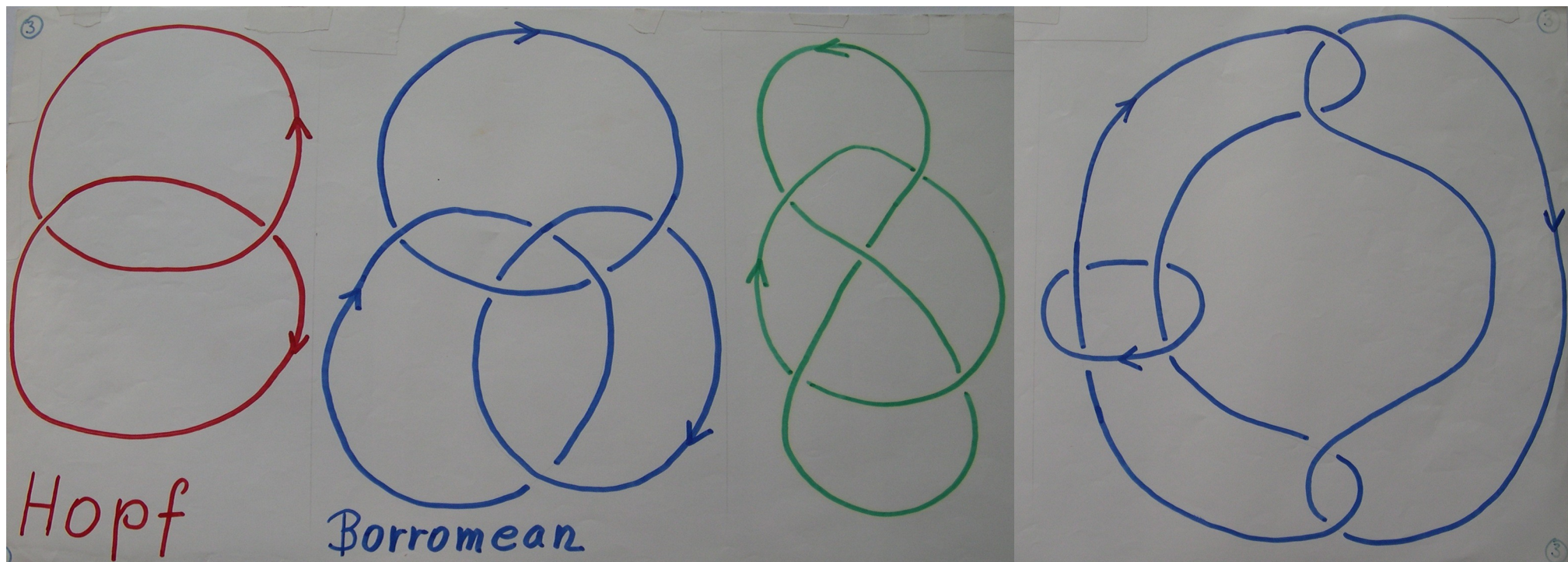
Příklady copánků



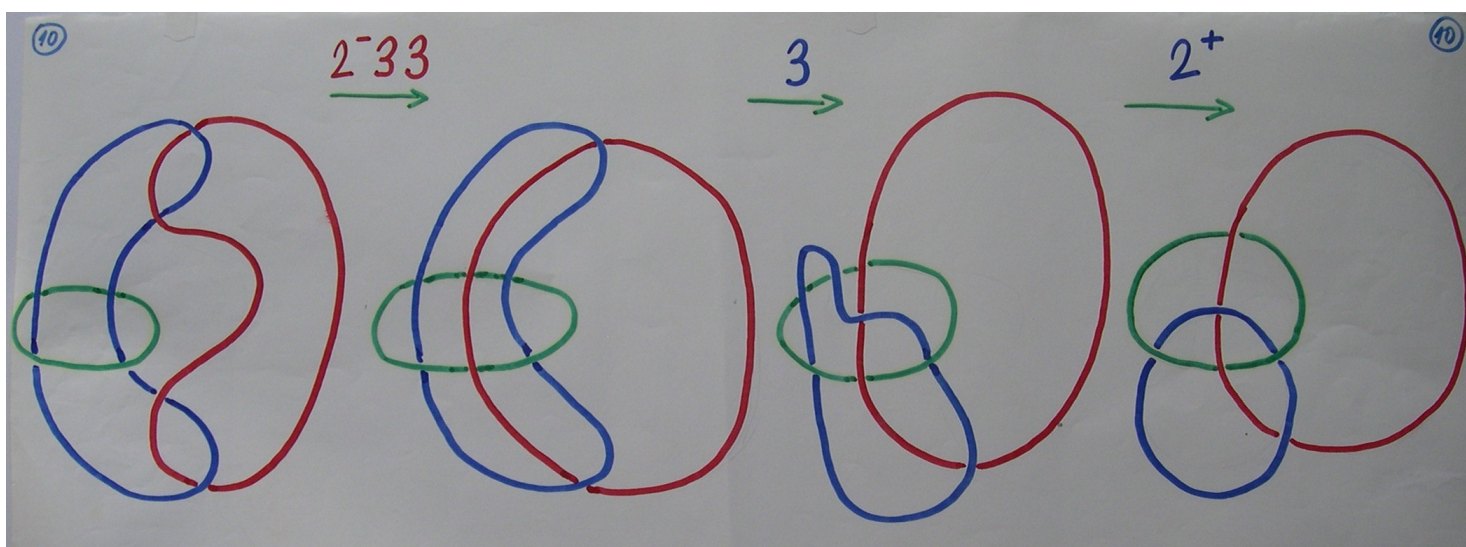


Příklady uzlů

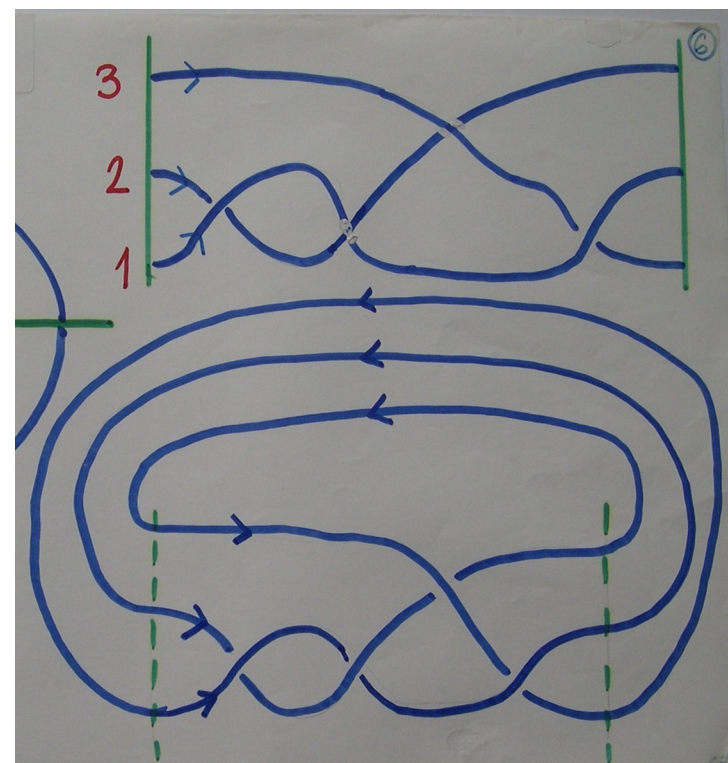
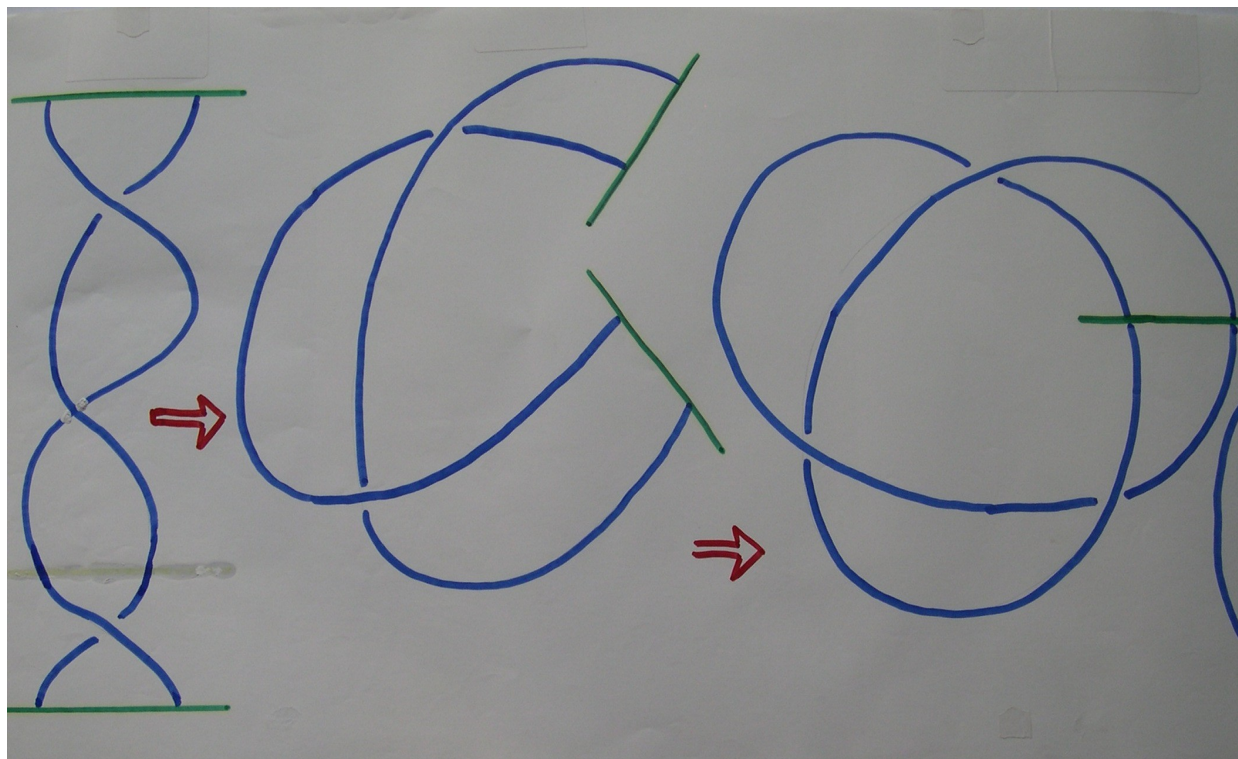




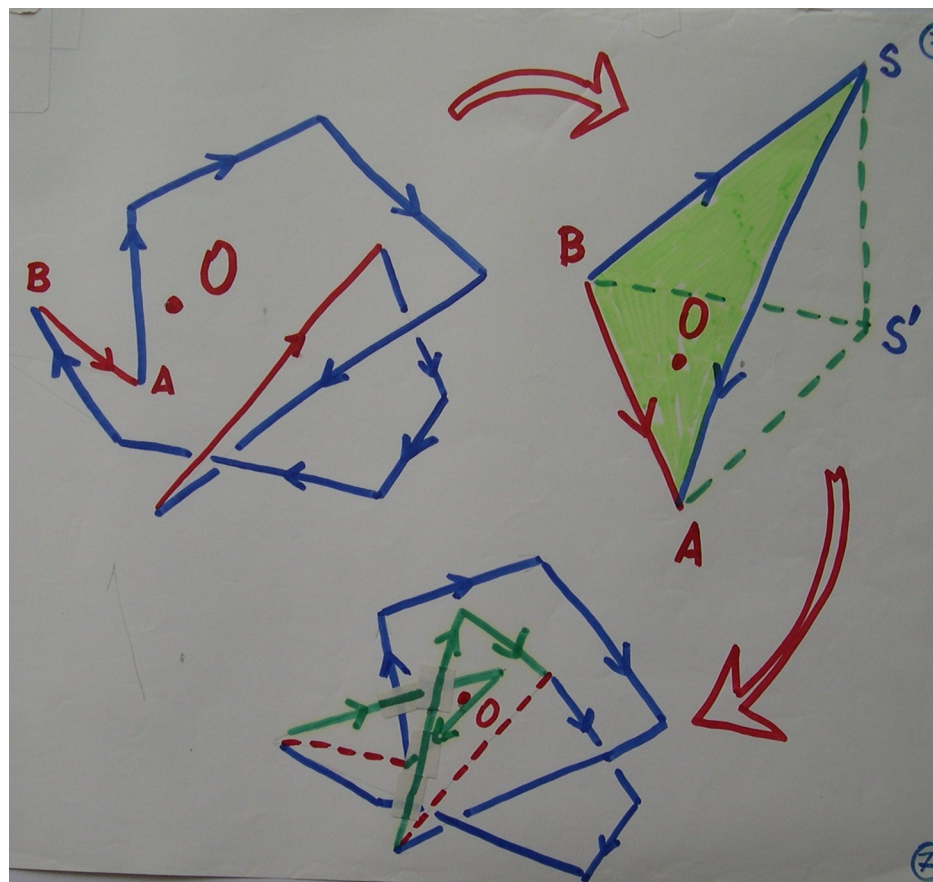
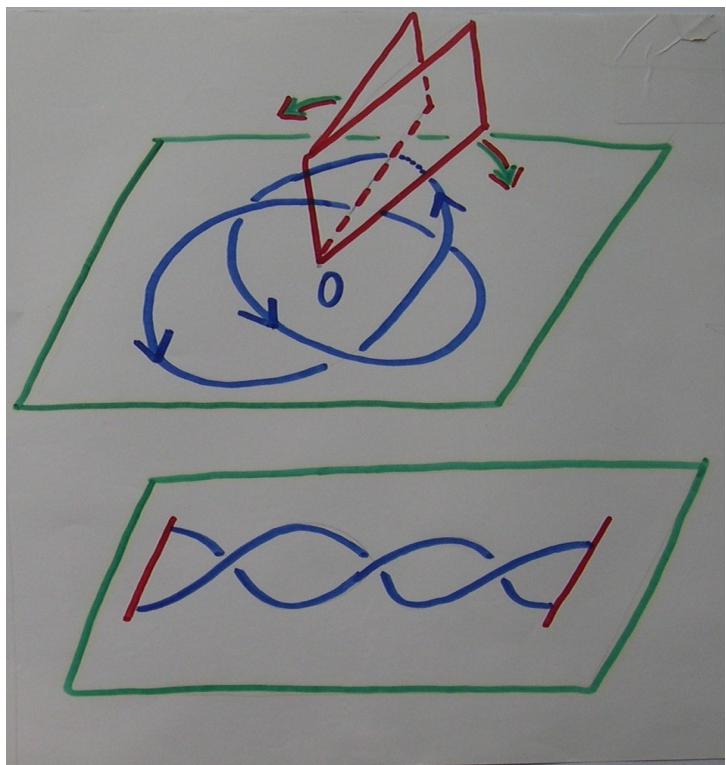
Příklady spletců



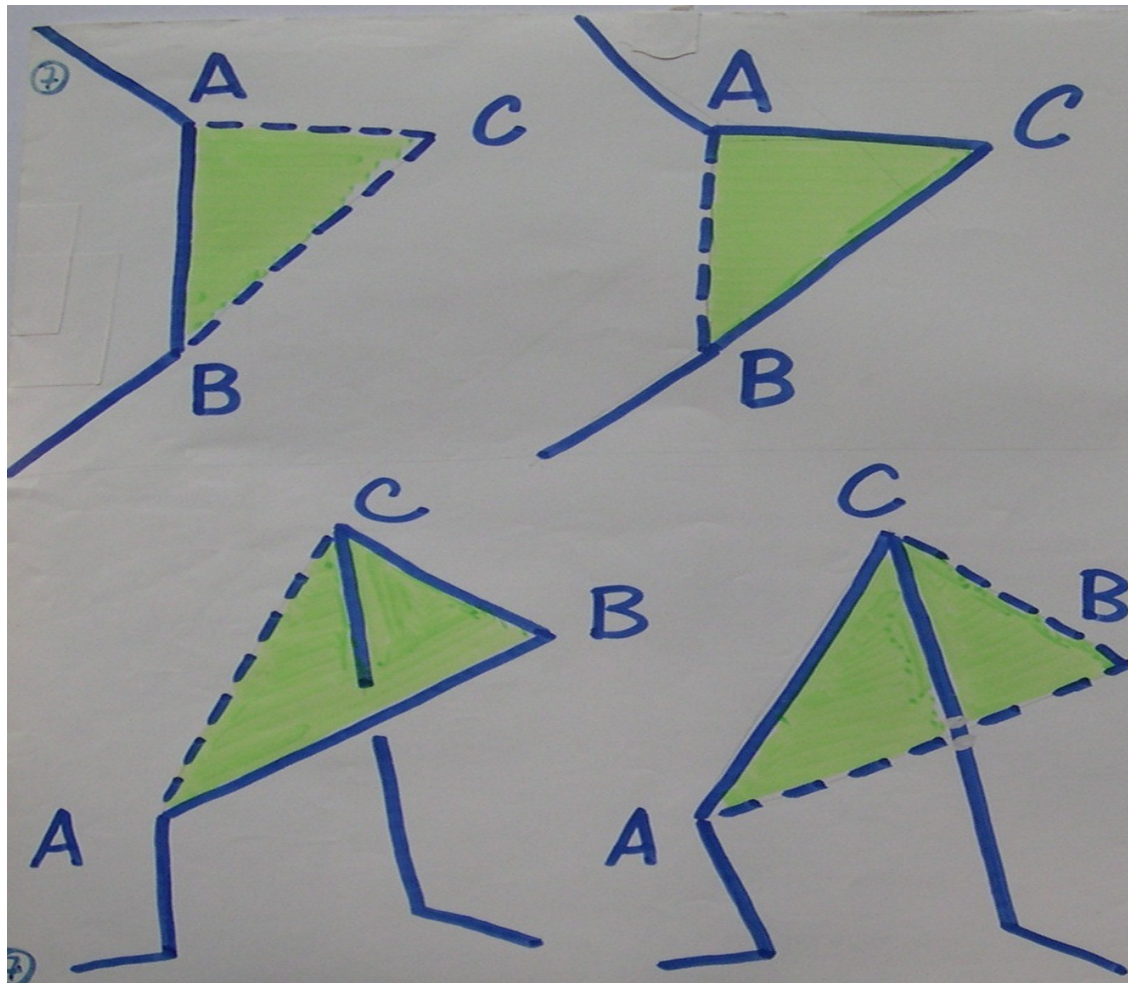
Uzly a spletnce vyrobené z copánků



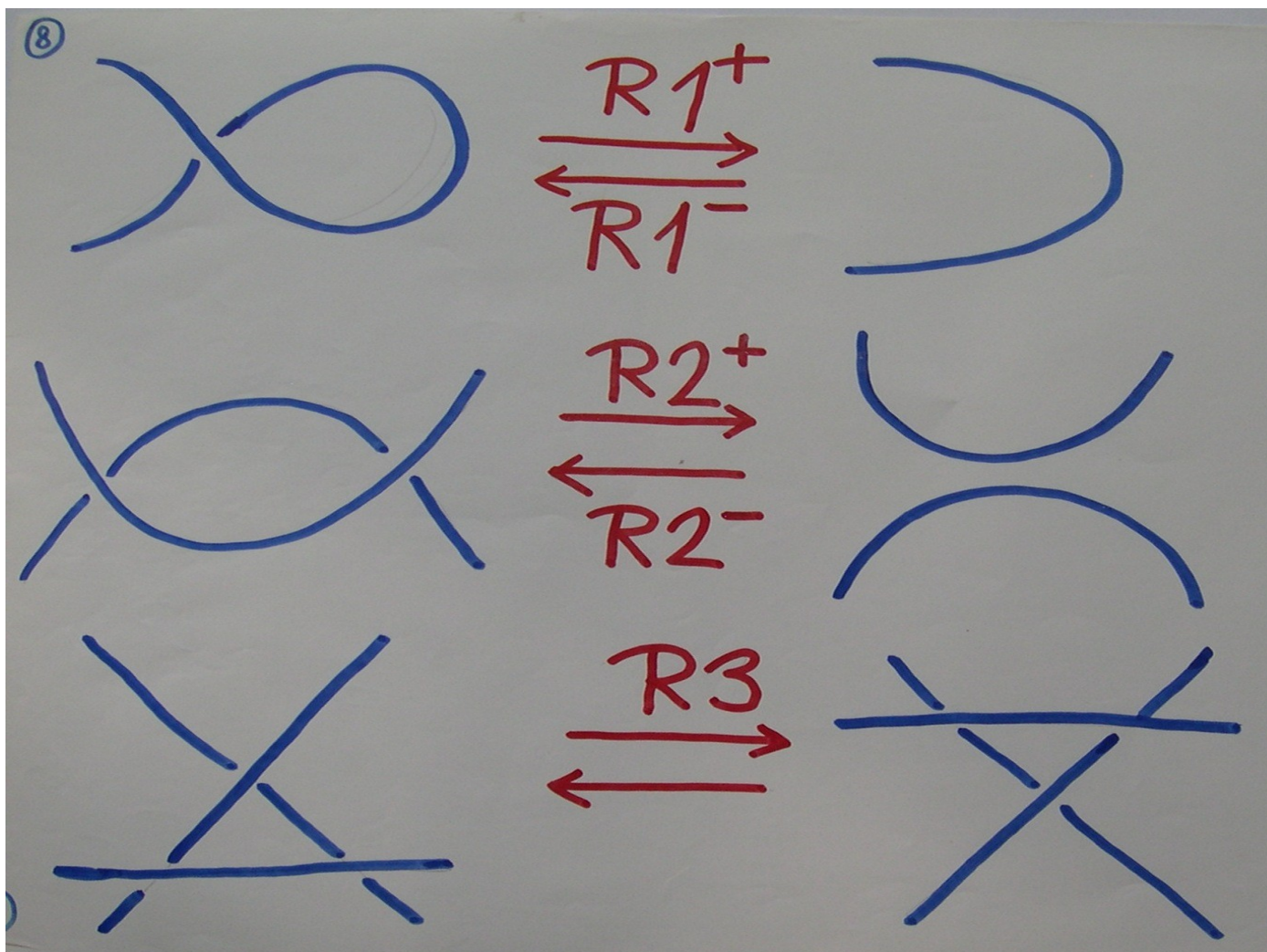
Každý uzel vznikne z copánku

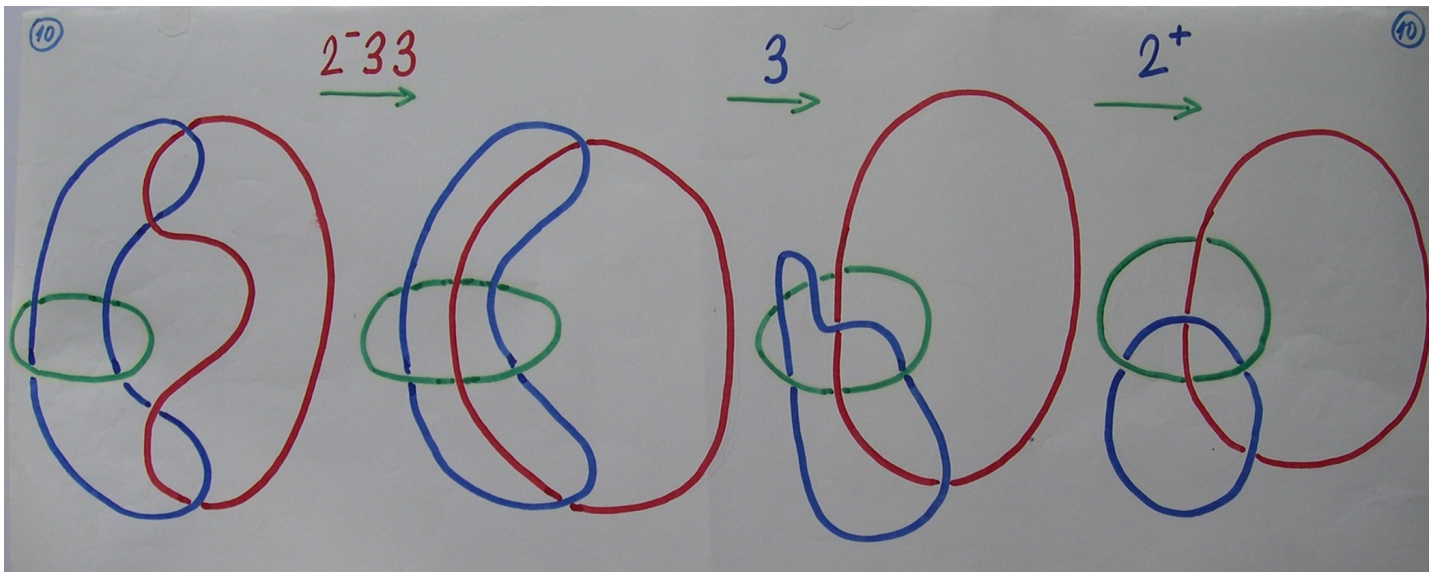


Přípustné deformace

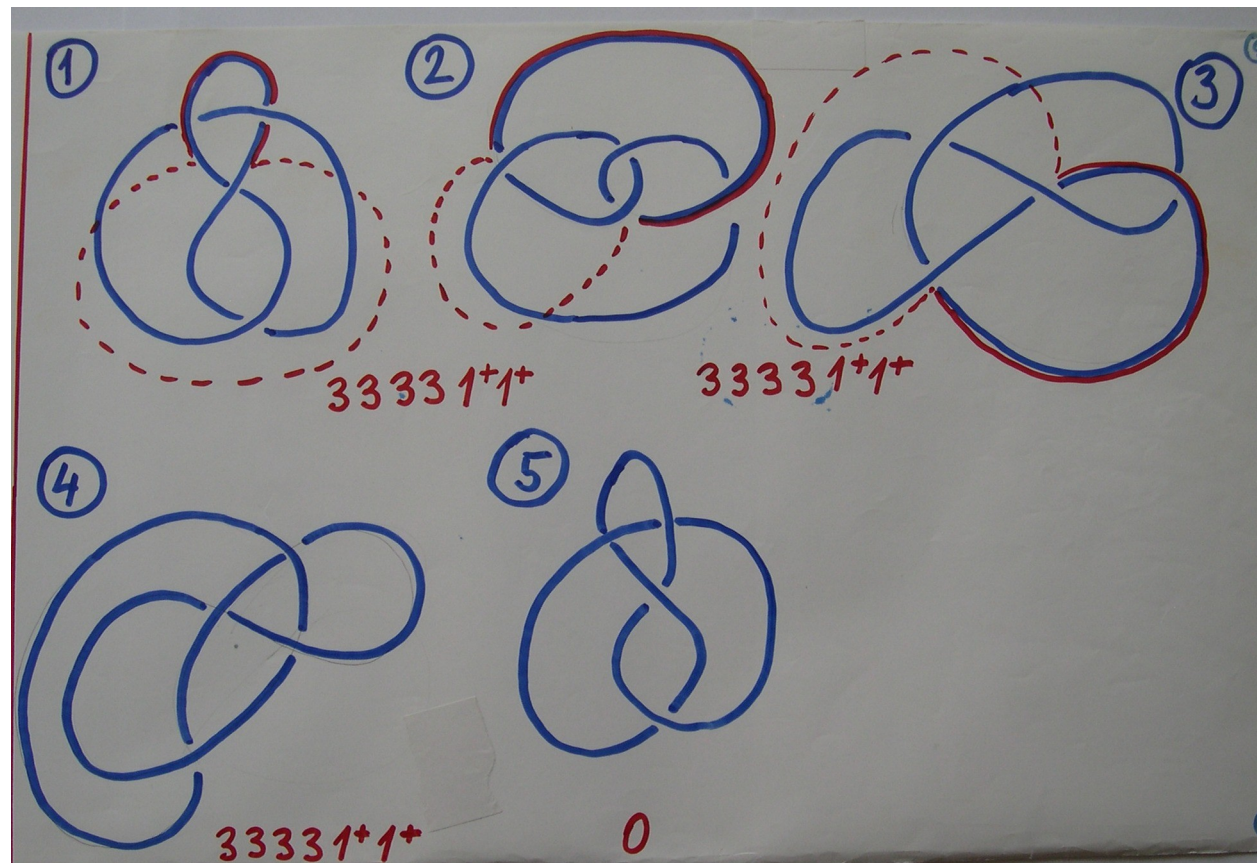


Reidemeisterovy deformace = Reidemeister moves

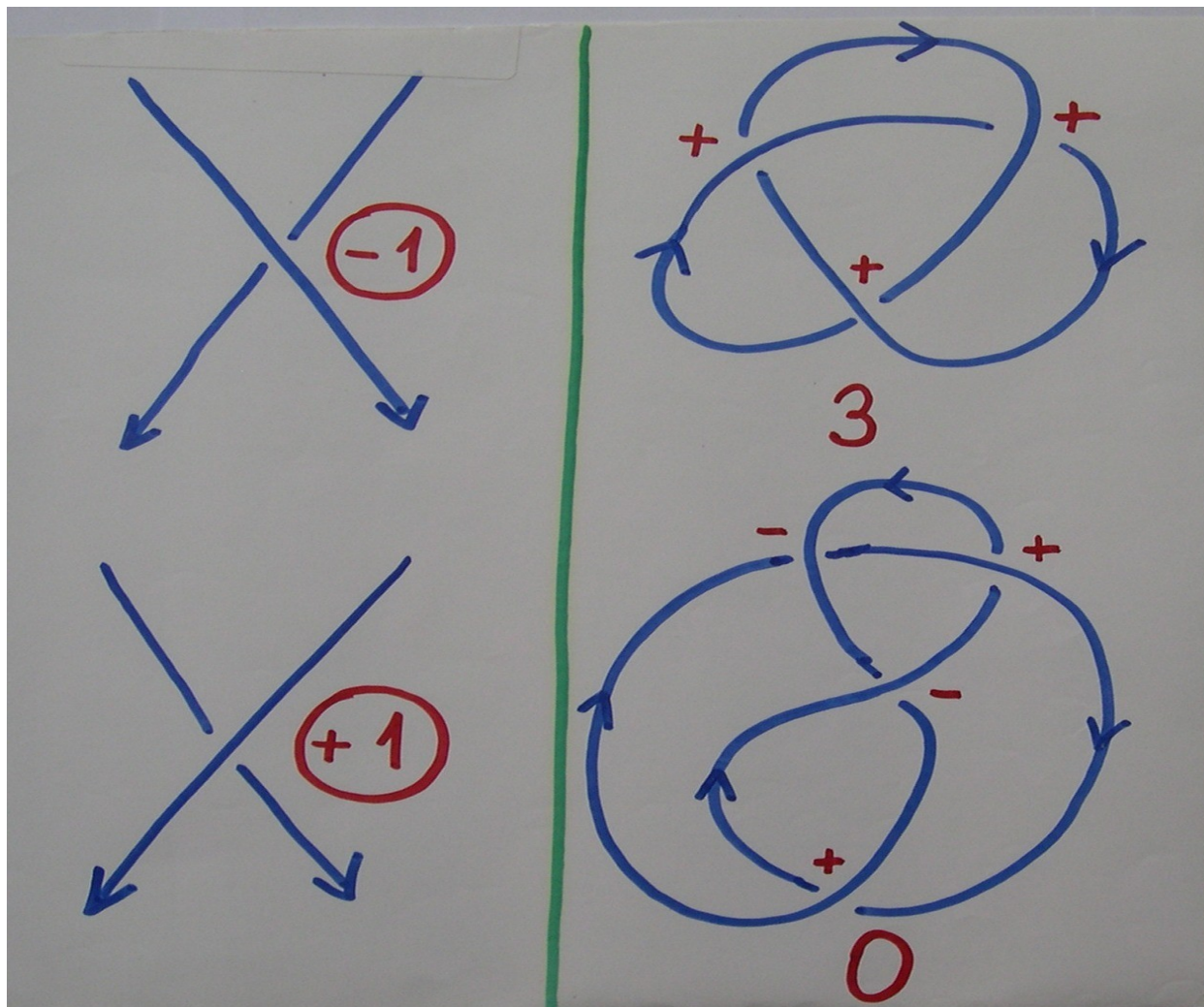




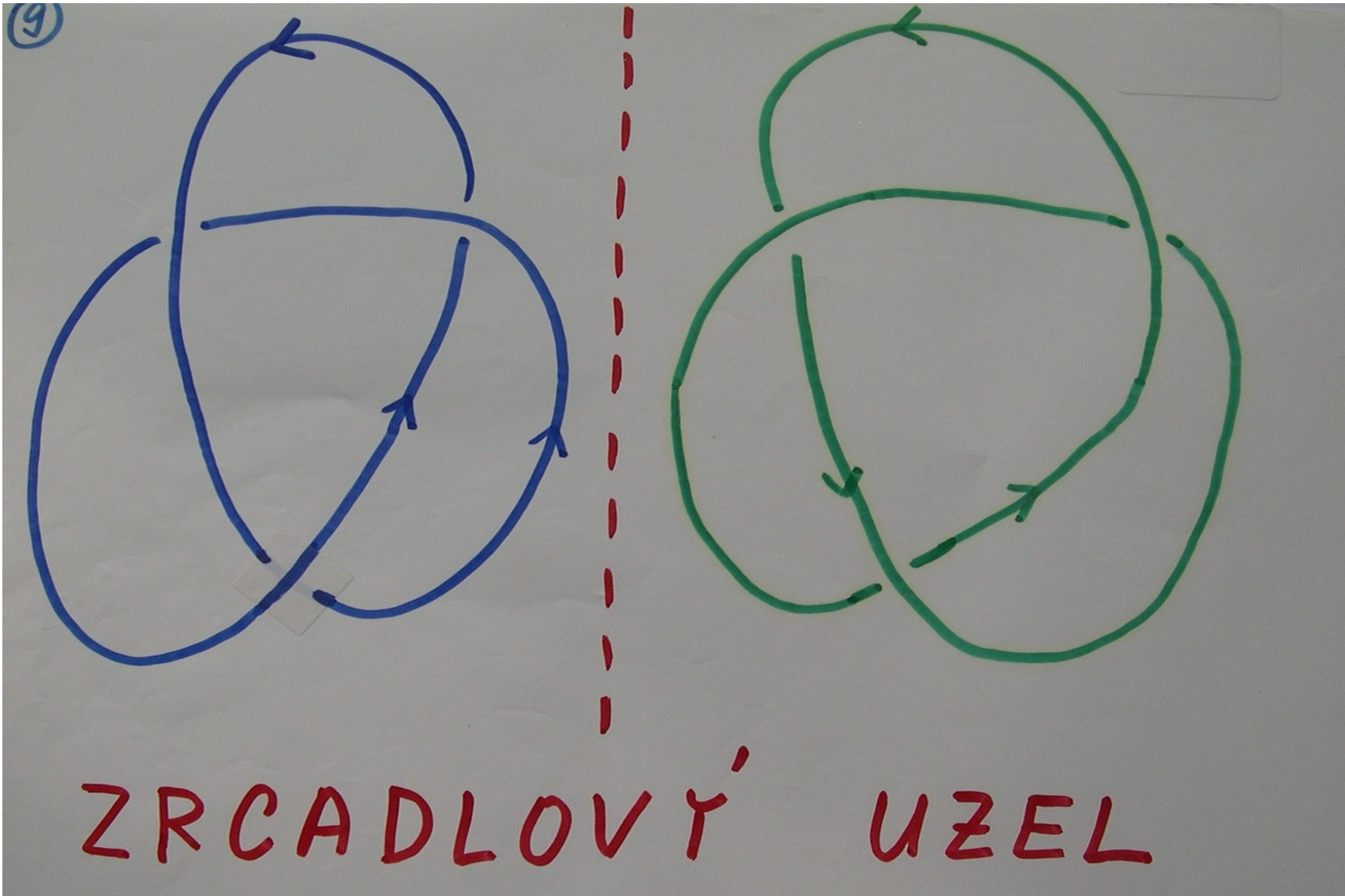
Příklady Reidemeisterových
deformací



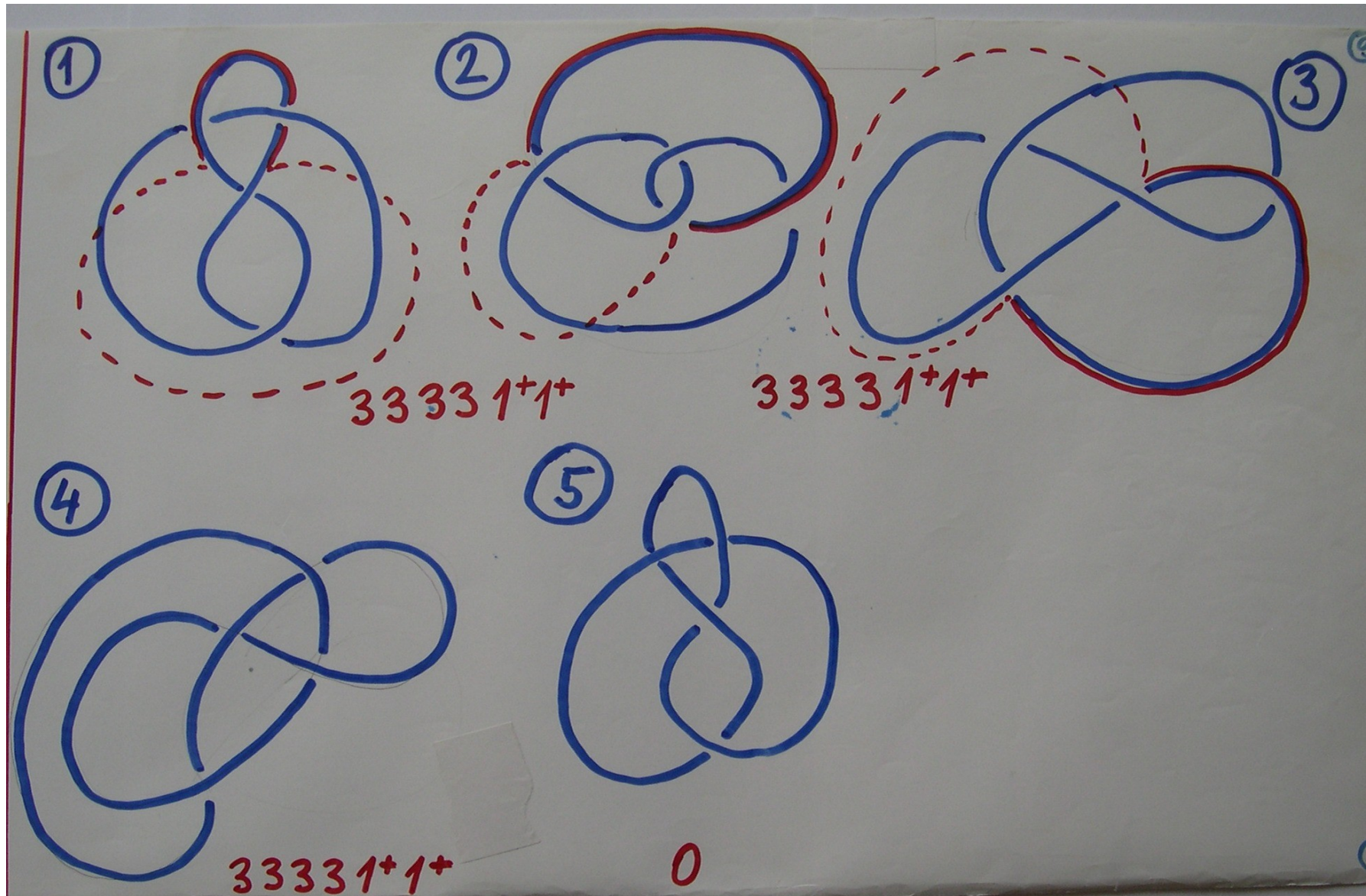
Orientace uzlů, orientace křížení v diagramech, linking number

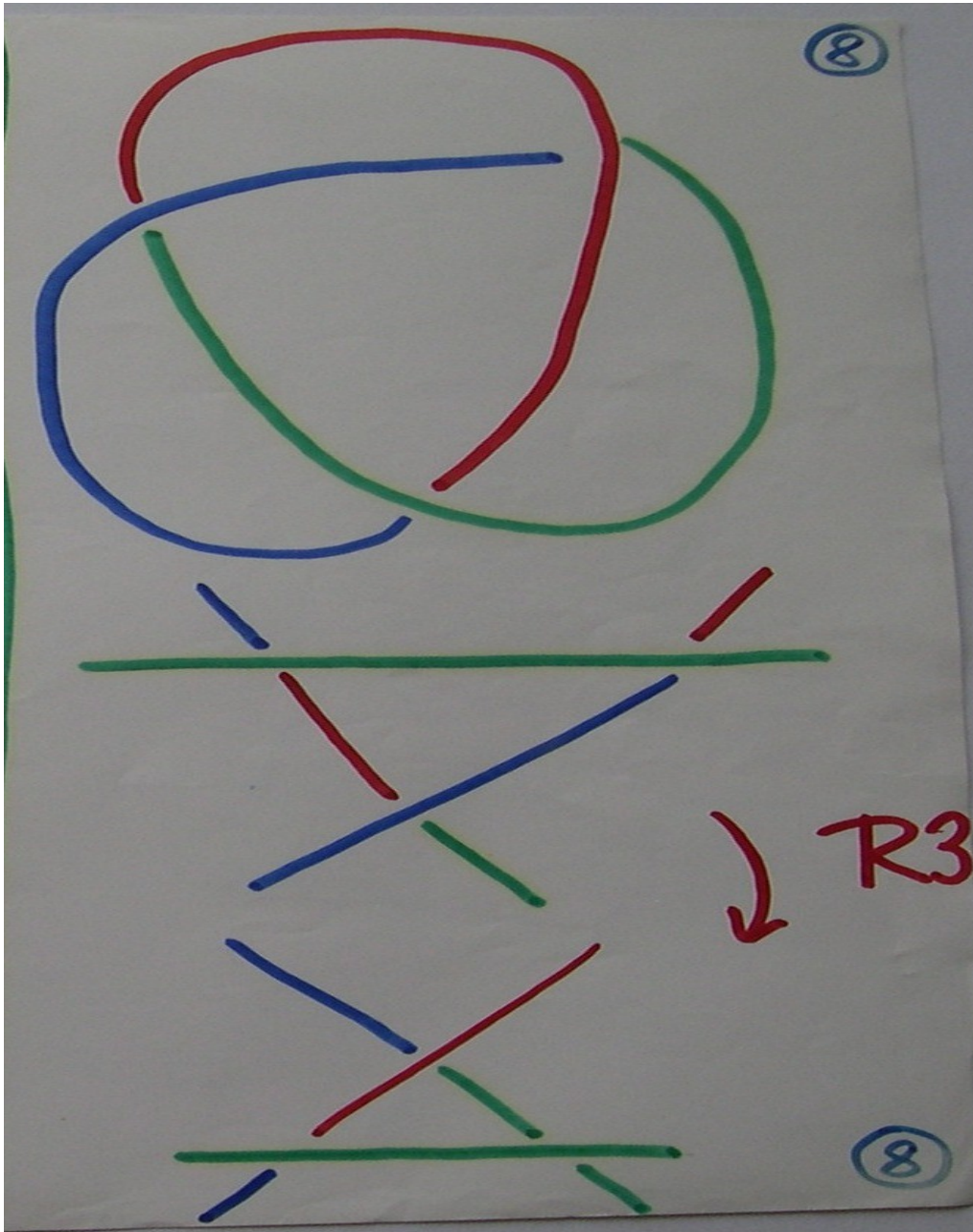


Zrcadlový uzel



Zrcadlové osmičky jsou ekvivalentní



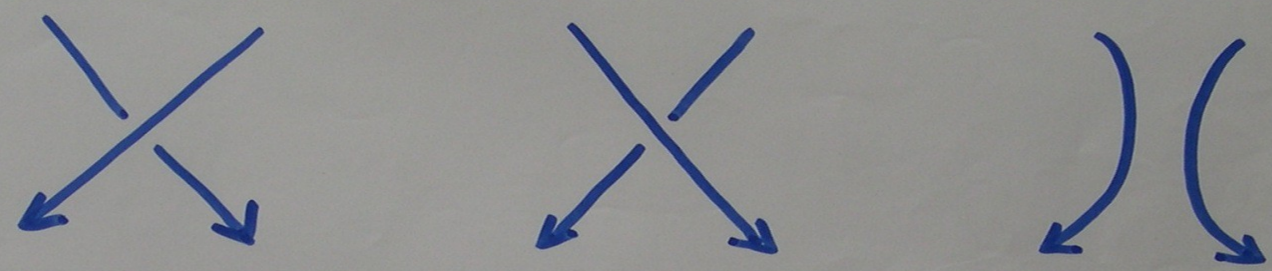


Přípustné obarvení třemi barvami

Počet takových obarvení umožní dokázat, že triviální uzel a trojlístek nejsou ekvivalentní

Alexandrův-Conwayův polynom pro orientované diagramy

$A_{L^+}(x) - A_{L^-}(x) = x A_{L^0}(x)$



L^+ L^- L^0

$A_{\bigcirc}(x) = 1$

První výpočty

ALEXANDRŮV - CONWAYŮV POLYNOM

$$L^+ \begin{array}{c} \text{Diagram 1} \\ 1 \end{array} - L^- \begin{array}{c} \text{Diagram 2} \\ 1 \end{array} = x A(x) = 0$$

$$L^+ \begin{array}{c} \text{Diagram 3} \\ A(x) \end{array} = L^- \begin{array}{c} \text{Diagram 4} \\ 0 \end{array} + x \cdot 1 = x$$

$$L^+ \begin{array}{c} \text{Diagram 5} \\ A(x) \end{array} = L^- \begin{array}{c} \text{Diagram 6} \\ 1 \end{array} + x \cdot x = 1 + x^2$$

Jonesův polynom pro orientované diagramy (pro triviální uzel je roven 1)

⑫ JONESŮV POLYNOM $y^{-1}J_{L^+}(y) - yJ_{L^-}(y) = (\sqrt{y} - \frac{1}{\sqrt{y}})J_{L^0}(y)$ ⑫

$J_{\text{Oo}}(y) = -(y^{1/2} + y^{-1/2})$

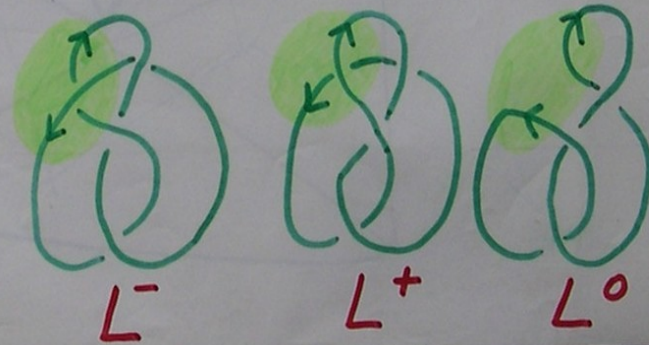
$J(\text{link}) (y) = y + y^3 - y^4$

$J(\text{link}) (y) = -(y^{-5/2} + y^{-1/2})$

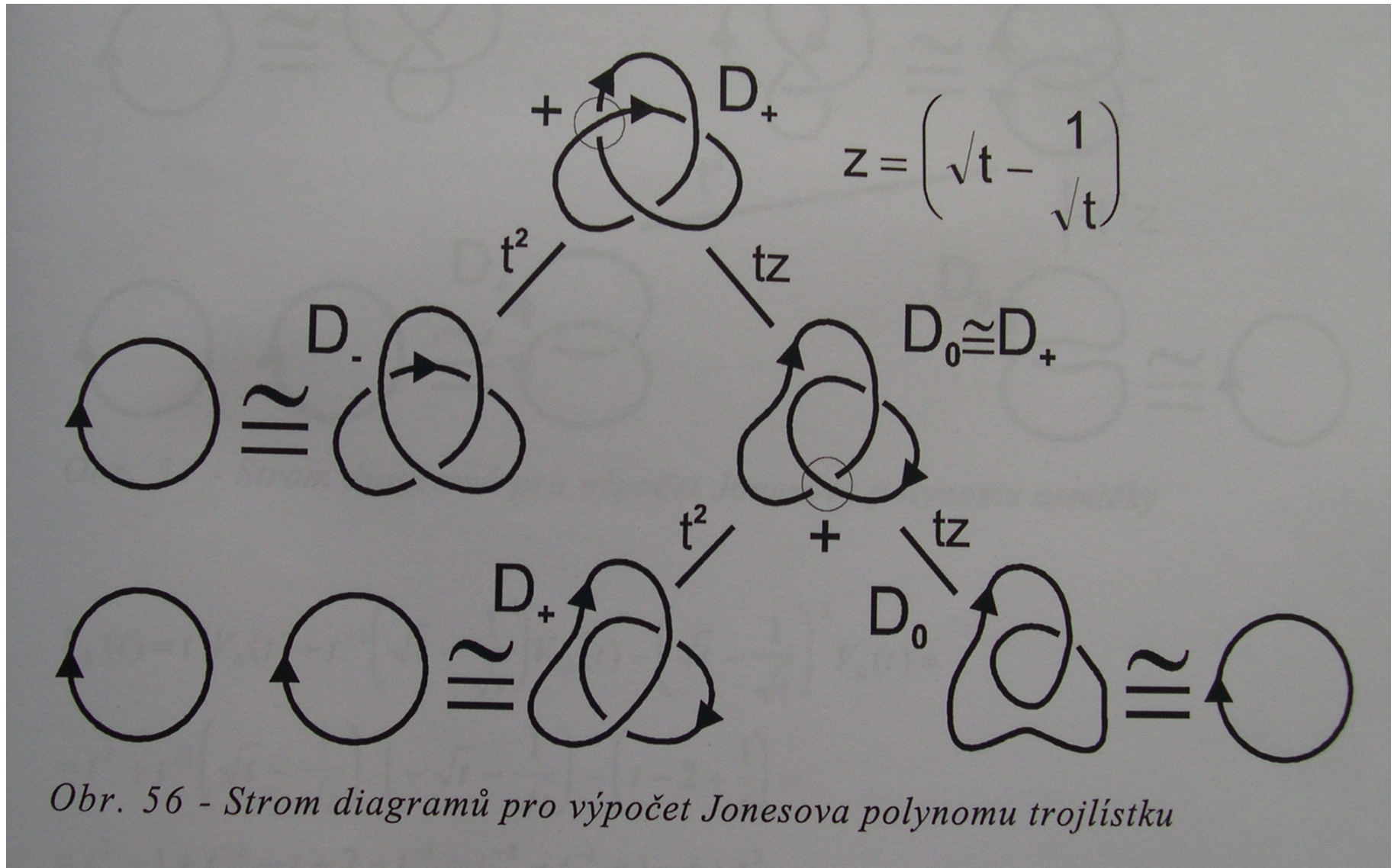
$J(\text{link}) (y) = y^{-2} + y^2 + 1 - y - y^{-1}$

$J(\text{link}) (y) = y^{-1} + y^{-3} - y^{-4}$

$J(\text{link}) (y) = -(y^{5/2} + y^{1/2})$

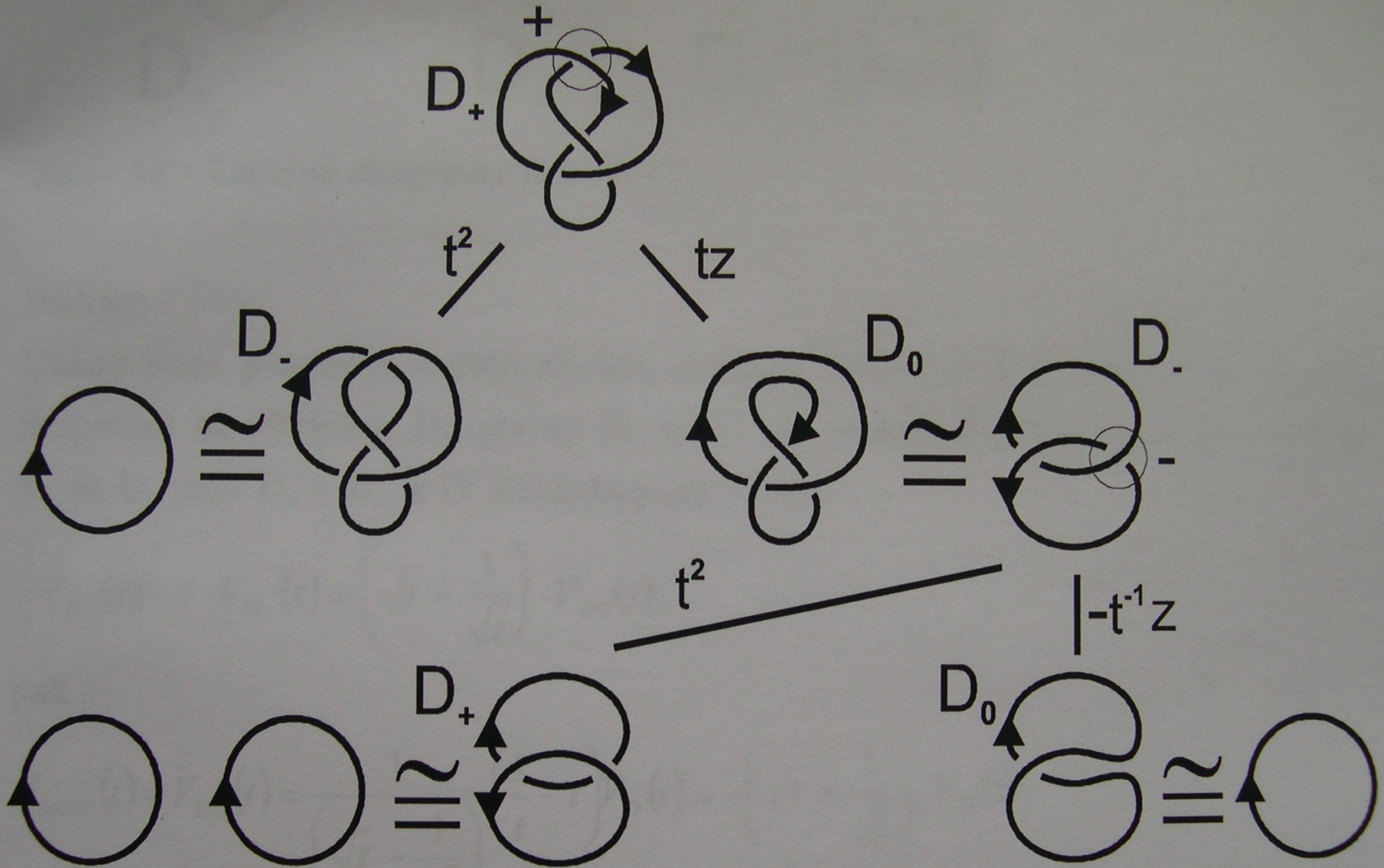


Výpočet Jonesova polynomu pro trojlístek



Obr. 56 - Strom diagramů pro výpočet Jonesova polynomu trojlístku

Výpočet Jonesova polynomu pro osmičku



Obr. 57 - Strom diagramů pro výpočet Jonesova polynomu osmičky