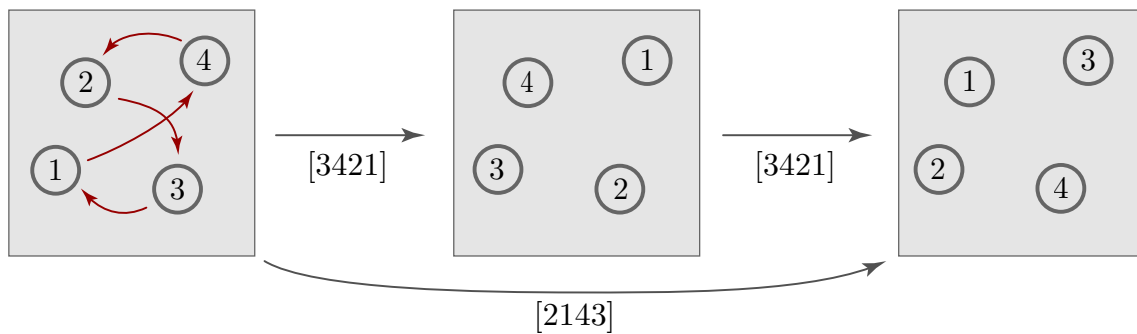


<https://moodle.lmu.de> → Kurse suchen: 'Rechenmethoden'

Sheet 00: Differentiation and Integration

Solution Optional Problem 1: Permutations [4]

(a)



(b)

$$\begin{aligned}
 123 &\xrightarrow{[321]} 321 \xrightarrow{[132]} 231 && \Rightarrow [231] = [132] \circ [321]. \\
 1234 &\xrightarrow{[2134]} 2134 \xrightarrow{[3214]} 2314 && \Rightarrow [2314] = [3214] \circ [2134]. \\
 1234 &\xrightarrow{[2431]} 2431 \xrightarrow{[1243]} 2341 \xrightarrow{[4231]} 2314 && \Rightarrow [2314] = [4231] \circ [1243] \circ [2431].
 \end{aligned}$$

[Total Points for Optional Problems: 4]
