

Zyklische Untergruppen von $D_n, S_n, n \in \{3, 4\}$

$$D_3 = \{id, d, d^2, s, sd, sd^2\}$$

Zyklische Untergruppen in D_3 :

$$\langle id \rangle = \{id\}$$

$$\langle d \rangle = \{id, d, d^2\} = \langle d^2 \rangle$$

$$\langle s \rangle = \{id, s\}$$

$$\langle sd \rangle = \{id, sd\}$$

$$\langle sd^2 \rangle = \{id, sd^2\}$$

$$D_4 = \{id, d, d^2, d^3, s, sd, sd^2, sd^3\}$$

Zyklische Untergruppen in D_4 :

$$\langle id \rangle = \{id\}$$

$$\langle d \rangle = \{id, d, d^2, d^3\} = \langle d^3 \rangle$$

$$\langle d^2 \rangle = \{id, d^2\}$$

$$\langle s \rangle = \{id, s\}$$

$$\langle sd \rangle = \{id, sd\}$$

$$\langle sd^2 \rangle = \{id, sd^2\}$$

$$\langle sd^3 \rangle = \{id, sd^3\}$$

$$S_3 = \{(1), (12), (13), (23), (123), (132)\}$$

Zyklische Untergruppen in S_3 :

$$\langle (1) \rangle = \{(1)\}$$

$$\langle (12) \rangle = \{(1), (12)\}$$

$$\langle (13) \rangle = \{(1), (13)\}$$

$$\langle (23) \rangle = \{(1), (23)\}$$

$$\langle (123) \rangle = \{(1), (123), (132)\} = \langle (132) \rangle$$

Zyklische Untergruppen in S_4 :

$$\langle (1) \rangle = \{(1)\}$$

$$\langle (ab) \rangle = \{(1), (ab)\}$$

$$\langle (abc) \rangle = \{(1), (abc), (acb)\} = \langle (acb) \rangle$$

$$\langle (abcd) \rangle = \{(1), (abcd), (ac)(bd), (adcb)\} = \langle (adcb) \rangle$$

$$\langle (ab)(cd) \rangle = \{(1), (ab)(cd)\}$$