

Tabelle T.3. Symmetrische Polynome $\mathcal{S}\{p, q, r, s\}$, $p \geq q \geq r \geq s$ für $n = 4$ ausgedrückt durch die elementaren symmetrischen Funktionen $\sigma_1 \equiv a + b + c + d$, $\sigma_2 \equiv ab + ac + ad + bc + bd + cd$, $\sigma_3 \equiv abc + abd + acd + bcd$ und $\sigma_4 \equiv abcd$

| <i>Polynome 1. Grades</i> | σ_1 | | | | |
|--|--------------|----------------------|--------------------|--------------|------------|
| $\mathcal{S}\{1, 0, 0, 0\} = 6(a + b + c + d) \equiv 6\sigma_1$ | 6 | | | | |
| <i>Polynome 2. Grades</i> | σ_1^2 | σ_2 | | | |
| $\mathcal{S}\{2, 0, 0, 0\} = 6(a^2 + b^2 + c^2 + d^2) \equiv 6s_2$ | 6 | -12 | | | |
| $\mathcal{S}\{1, 1, 0, 0\} = 4(ab + ac + ad + bc + bd + cd) \equiv 4\sigma_2$ | 0 | 4 | | | |
| <i>Polynome 3. Grades</i> | σ_1^3 | $\sigma_1\sigma_2$ | σ_3 | | |
| $\mathcal{S}\{3, 0, 0, 0\} = 6(a^3 + b^3 + c^3 + d^3) \equiv 6s_3$ | 6 | -18 | 18 | | |
| $\mathcal{S}\{2, 1, 0, 0\} = 2[ab(a + b) + ac(a + c) + ad(a + d) + bc(b + c) + bd(b + d) + cd(c + d)]$ | 0 | 2 | -6 | | |
| $\mathcal{S}\{1, 1, 1, 0\} = 6(abc + abd + acd + bcd) \equiv 6\sigma_3$ | 0 | 0 | 6 | | |
| <i>Polynome 4. Grades</i> | σ_1^4 | $\sigma_1^2\sigma_2$ | $\sigma_1\sigma_3$ | σ_2^2 | σ_4 |
| $\mathcal{S}\{4, 0, 0, 0\} = 6(a^4 + b^4 + c^4 + d^4) \equiv 6s_4$ | 6 | -24 | 24 | 12 | -24 |
| $\mathcal{S}\{3, 1, 0, 0\} = 2[a^3(b + c + d) + b^3(c + d + a) + c^3(d + a + b) + d^3(a + b + c)]$ | 0 | 2 | -2 | -4 | 8 |
| $\mathcal{S}\{2, 2, 0, 0\} = 4(a^2b^2 + a^2c^2 + a^2d^2 + b^2c^2 + b^2d^2 + c^2d^2)$ | 0 | 0 | -8 | 4 | 8 |
| $\mathcal{S}\{2, 1, 1, 0\} = 2[a^2(bc + bd + cd) + b^2(cd + ca + da) + c^2(da + db + ab) + d^2(ab + ac + bc)]$ | 0 | 0 | 2 | 0 | -8 |
| $\mathcal{S}\{1, 1, 1, 1\} = 24abcd \equiv 24\sigma_4$ | 0 | 0 | 0 | 0 | 24 |