Galois-Feld GF(8) Alt

Berechnen Sie $(x^2+x+1) \odot (x^2+x)$ in GF(8)

$$(x^2+x+1)\cdot(x^2+x) = x^4 + x^3 + x^2 + x^3 + x^2 + x$$

$$= x^4 + x$$

$$x^4 + x = x(x^3 + x^2 + 1) + x^3$$

$$x^3 = 1\cdot(x^3 + x^2 + 1) + x^2 + 1$$

$$\Rightarrow (x^2+x+1) \odot (x^2+x) = x^2 + 1 \triangleq 101$$