Z1

$$W(x) = \alpha_n x^n + \alpha_{n-1} x^{n-1} + \ldots + \alpha_1 x + \alpha_0 =$$

$$= (\alpha_n x^{n-1} + \alpha_{n-1} x^{n-2} + \ldots + \alpha_1) x + \alpha_0 =$$

$$= ((\ldots (\alpha_n x + \alpha_{n-1}) x + \alpha_{n-2}) x \ldots) x + \alpha_0$$

ε_i - błędy dodawania

δ_i - błędy mnożenia

$$((\ldots (\alpha_n x (1+\delta_n)(1+\varepsilon_n) + \alpha_{n-1})(1+\varepsilon_{n-1}) x (1+\delta_{n-1}) + \alpha_{n-2})(1+\varepsilon_{n-2}) x (1+\delta_{n-2}) \ldots)(1+\varepsilon_1) x (1+\delta_1) + \alpha_0)(1+\varepsilon_0)(1+\delta_0) =$$

$$\alpha_n x^n (1+\delta_n)(1+\varepsilon_n)(1+\delta_{n-1})(1+\varepsilon_{n-1}) \ldots (1+\delta_0)(1+\varepsilon_0) + \alpha_{n-1} x^{n-1} (1+\delta_{n-1})(1+\varepsilon_{n-1}) \ldots (1+\delta_0)(1+\varepsilon_0) + \ldots + \alpha_0 (1+\varepsilon_0)(1+\delta_0) =$$

$$= \sum_{i=0}^{n} x^i \alpha_i \left(\prod_{j=0}^{i} (1+\varepsilon_j)(1+\delta_j) \right)$$

$$1 + E_i = \prod_{j=0}^{i} (1+\varepsilon_j)(1+\delta_j), \quad \varepsilon_i = 0, \ \delta_0 = 0$$

$$|E_i| \leq i 2^{-t}$$

$$\hat{\alpha}_i = \alpha_i (1 + E_i)$$

$$\hat{W}(x) = \sum_{i=0}^{n} x^i \hat{\alpha}_i$$