Z8)

$$g(x_n) = x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)} - \frac{f''(x_n)\cdot f^2(x_n)}{2\cdot f'(x_n)\cdot f'^2(x_n)} = x_n - \frac{f^2(x_n)f^{(2)}(x_n) + 2f(x_n)f'^2(x_n)}{2f'^3(x_n)} =$$

$f(\alpha)=0 \quad g(x)=x$

$$g'(x_n) = f^{(2)}(x_n)^2 \left(\frac{3f^{(2)}(x_n)^2 - f'(x_n)\cdot f^{(3)}(x_n)}{2f^{(4)}(x_n)} \right)$$

$$g''(x_n) = f(x_n)\left(\frac{6f'^2(x_n)\cdot f^{(2)2}(x_n) - 12\cdot f(x_n)f^{(2)3}(x_n) - 2f'^3(x_n)\cdot f^{(3)}(x_n) + 8f(x_n)\cdot f'(x_n)\cdot f^{(2)}(x_n)\cdot f^{(3)}(x_n) - f(x_n)\cdot f'^2(x_n)\cdot f^{(4)}(x_n)}{2f'^5(x_n)} \right)$$

$g'(x) = g^{(2)}(x) = 0$, czyli ten algorytm zbiega nie najd zbieżności conajmniej 3.