$$f^t(x) = w^t \left(x + \sum_{n=1}^{\infty} \frac{(-1)^n}{n!} \left[\prod_{k=0}^{n-1} (t-k) \right] \left[x + \sum_{m=1}^{n} \left(\frac{-1}{w} \right)^m \binom{n}{m} f^m(x) \right] \right)$$