

```

QΔ[T_, y1_, a1_, x1_, ε1_, η1_, δ_] := Module[
{adx, G, F, f, unowns, bas, eqns, sol, λ, q, ν, ε, η, t},
adx[δ_] := Simplify[x_Qu ** δ - δ ** x_Qu];
G = Simplify[NestList[adx, y_Qu, $TεD + 1] .
Table[ε^k/k!, {k, 0, $TεD + 1}]];
F = Sum[f_{l,i,j,k}[η] ∈ QU@{y^i, a^j, x^k}, {l, 0, $TεD},
{i, 0, l}, {j, 0, l}, {k, 0, Min[l, 2l - i - j]}];
unowns = Cases[F, f___[η], ∞];
bas =
Union @@ Table[ε^l Cases[Coefficient[F, ε, l], _QU, ∞],
{l, 0, $TεD}];
eqns =
Flatten[
{(Coefficient[F - QU[], #] /. η → 0) == 0,
Expand[Coefficient[Simplify[F ** G - y_Qu ** F - ∂_η F],
#]] == 0} & /@ bas];
{sol} = DSolve[eqns, unowns, η];
λ = Collect[F /. sol /. {ε → 1, QU → Times}, ε,
Simplify];
q = ε^ν (-t ε η + η y + ε x + δ y x);
Collect[ν q^-1 DP_{ξ→Dx,η→Dy}[λ][q] /. ν → (1 + t δ)^-1 /.
t → (T^2 - 1)/n, ε, Simplify] /.
{y → y1, a → a1, x → x1, ε → ε1, η → η1}];
];

```