$$R(x,t,1) = \sum_{n=1}^{\infty} e^{x^2-t^2} \cdot \frac{(x-t)^{n-1}}{(n-1)!} =$$

$$= e^{x^2-t^2} \cdot e^{x-t}$$

$$y(x) = f(x) + \int_0^x R(x,t) \cdot f(t)\, dt =$$

$$= e^{x^2} + \int_0^x e^{x^2-t^2+x-t} \cdot e^{t^2} dt =$$

$$= e^{x^2} + e^{x^2+x} \int_0^x e^{-t} dt =$$

$$= e^{x^2} + e^{x^2+x} \left(-e^{-t}\right)\Big|_0^x =$$

$$= e^{x^2} - e^{x^2} + e^{x^2+x} = \underline{e^{x^2+x}}$$