

35. 
$$\int_{a}^{x} [g(x) + h(t)]y(t) dt = f(x), \qquad f(a) = 0.$$

For h(t) = -g(t), see equation 1.33.

Solution:

$$y(x) = \frac{d}{dx} \left[ \frac{\Phi(x)}{g(x) + h(x)} \int_a^x \frac{f_t'(t) dt}{\Phi(t)} \right], \qquad \Phi(x) = \exp\left[ \int_a^x \frac{h_t'(t) dt}{g(t) + h(t)} \right].$$

## Reference

Polyanin, A. D. and Manzhirov, A. V., Handbook of Integral Equations, CRC Press, Boca Raton, 1998.

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