



3. 
$$\int_a^x (x-t)^n y(t) dt = f(x), \quad n = 1, 2, \dots$$

It is assumed that the right-hand of the equation satisfies the conditions  $f(a) = f'_x(a) = \dots = f_x^{(n)}(a) = 0$ .

Solution: 
$$y(x) = \frac{1}{n!} f_x^{(n+1)}(x).$$

### Reference

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