$f \in C^1[0;1]$ ↗ на $[0;1]$

$f(0) = 0$

$g(f(x)) = x$ $\quad x \in [0;1]$

$$\int_0^x f(u)\,du + \int_0^{f(x)} g(u)\,du = x f(x)$$

$$F(x) - F(0) + G(f(x)) - G(0) = x f(x)$$

$$f(x) - f(0) + g(f(x)) \cdot f'(x) - 0 = f(x) + xf'(x)$$

$$x f'(x) = x f'(x)$$