Zadatak 34. Ako je $f(x) = (0.75)^{x+1}$, $g(x) = \log_{\frac{4}{3}}(x+2)$, riješi jednadžbu $(f \circ g)(x) = -x$.

Rješenje. $f(x) = (0.75)^{x+1}$, $g(x) = \log_{\frac{4}{3}}(x+2)$, $(f \circ g)(x) = -x$

$$(f \circ g)(x) = (0.75)^{\log_{\frac{4}{3}}(x+2)+1} = \left(\frac{3}{4}\right)^{-\log_{\frac{3}{4}}(x+2)+\log_{\frac{3}{4}}\frac{3}{4}}$$

$$= \left(\frac{3}{4}\right)^{\log_{\frac{3}{4}}\frac{\frac{3}{4}}{x+2}} = \left(\frac{3}{4}\right)^{\log_{\frac{3}{4}}\frac{3}{4(x+2)}} = \frac{3}{4(x+2)}$$

$$\frac{3}{4(x+2)} = -x \implies 3 = -4x^2 - 8x \implies 4x^2 + 8x + 3 = 0$$

$$4x^2 + 2x + 6x + 3 = 0 \implies (2x+3)(2x+1) = 0 \implies x_1 = -\frac{3}{2},\ x_2 = -\frac{1}{2}.$$