

Zadatak 19. Riješi jednađbu $f'(x) = g'(x)$ ako je

$$f(x) = \ln(1-x), \quad g(x) = \frac{1}{1-x}.$$

Rješenje. $f'(x) = \frac{1}{x-1}, \quad g'(x) = \frac{1}{(x-1)^2};$

$$\frac{1}{x-1} = \frac{1}{(x-1)^2} \implies \frac{1}{(x-1)^2} - \frac{1}{x-1} = 0 \implies \frac{1-x+1}{(x-1)^2} = 0 \implies$$

$$\frac{2-x}{(x-1)^2} = 0 \implies x = 2;$$

$$x \neq 1, \quad 1-x > 0 \implies -x > -1 \implies x < 1 \implies \text{nema rješenja.}$$