

Zadatak 2. Odredi kompozicije $f \circ g$, $g \circ f$ ako je

$$f(x) = \frac{2-x}{3x-1}, \quad g(x) = \frac{x+1}{2x-1}.$$

Rješenje. $f(x) = \frac{2-x}{3x-1}, \quad g(x) = \frac{x+1}{2x-1}$

$$(f \circ g)(x) = \frac{2 - \frac{x+1}{2x-1}}{3 \cdot \frac{x+1}{2x-1} - 1} = \frac{4x - 2 - x - 1}{3x + 3 - 2x + 1} = \frac{3x - 3}{x + 4}, \quad x \neq -4$$

$$(g \circ f)(x) = \frac{\frac{2-x}{3x-1} + 1}{2 \cdot \frac{2-x}{3x-1} - 1} = \frac{2-x+3x-1}{4-2x-3x+1} = \frac{2x+1}{5-5x}, \quad x \neq 1.$$