Date le seguenti funzioni reali f e g, definite nell'insieme che abbiamo denominato *dominio naturale,* calcolare

$$(f \circ g)(x) + (g \circ f)(x)$$

Esprimere le risposte mediante un'unica frazione.

$f(x) = \dfrac{x+2}{x-1}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{3\left(x^2+x-1\right)}{(x-1)x}$

$f(x) = \dfrac{x+2}{x-1}$, $g(x) = x-1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{x^2+3x-7}{(x-2)(x-1)} = \dfrac{x^2+3x-7}{x^2-3x+2}$

$f(x) = \dfrac{x+2}{x+1}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{3x^2+11x+9}{(x+1)(x+2)} = \dfrac{3x^2+11x+9}{x^2+3x+2}$

$f(x) = \dfrac{x+1}{x-2}$, $g(x) = x-2$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{6(x-3)}{(x-4)(x-2)} = \dfrac{6(x-3)}{x^2-6x+8}$

$f(x) = \dfrac{2x+1}{x+1}$, $g(x) = x-1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{3x^2+x-1}{x(x+1)}$

$f(x) = \dfrac{2x+1}{x+2}$, $g(x) = x-1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{3\left(x^2+x-1\right)}{(x+1)(x+2)} = \dfrac{3\left(x^2+x-1\right)}{x^2+3x+2}$

$f(x) = \dfrac{x+1}{x-1}$, $g(x) = x-2$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{4(x-2)}{(x-3)(x-1)} = \dfrac{4(x-2)}{x^2-4x+3}$

$f(x) = \dfrac{x+2}{x-2}$, $g(x) = x+2$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{4\left(x^2-2\right)}{(x-2)x}$

$f(x) = \dfrac{2x+1}{x+1}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{5x^2+13x+7}{(x+1)(x+2)} = \dfrac{5x^2+13x+7}{x^2+3x+2}$

$f(x) = \dfrac{2x-1}{x+1}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{5x^2+9x+1}{(x+1)(x+2)} = \dfrac{5x^2+9x+1}{x^2+3x+2}$

$f(x) = \dfrac{x+2}{x-1}$, $g(x) = x-2$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{6(x-2)}{(x-3)(x-1)} = \dfrac{6(x-2)}{x^2-4x+3}$

$f(x) = \dfrac{x+2}{x-1}$, $g(x) = x+2$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{2\left(2x^2+3x-2\right)}{(x-1)(x+1)} = \dfrac{4x^2+6x-4}{x^2-1}$

$f(x) = \dfrac{2x+1}{x-1}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{5x^2+x-3}{(x-1)x}$

$f(x) = \dfrac{2x+1}{x-2}$, $g(x) = x+1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{5\left(x^2-x-1\right)}{(x-2)(x-1)} = \dfrac{5\left(x^2-x-1\right)}{x^2-3x+2}$

$f(x) = \dfrac{2x+1}{x-2}$, $g(x) = x-1$ $\qquad (f \circ g)(x) + (g \circ f)(x) = \dfrac{3x^2-5x-7}{(x-3)(x-2)} = \dfrac{3x^2-5x-7}{x^2-5x+6}$