$f(x) = x^2 - 1, \quad D = (-\infty, \infty); \quad g(x) = 2x + 2, \quad D = (-\infty, \infty).$

(a) $(f \circ g)(x) = f(g(x)) = f(2x-2) = (2x+2)^2 - 1, \quad D = (-\infty, \infty).$

(b) $(g \circ f)(x) = g(f(x)) = g(x^2-1) = 2(x^2-1) + 2, \quad D = (-\infty, \infty).$

(c) $(f \circ f)(x) = f(f(x)) = f(x^2-1) = (x^2-1)^2 - 1, \quad D = (-\infty, \infty).$

(d) $(g \circ g)(x) = g(g(x)) = g(2x+2) = 2(2x-2) + 2, \quad D = (-\infty, \infty).$