Risp 18: When does fg equal gf?

Pick two functions, and call them f(x) and g(x).

If fg means "f composed with g",
so that fg(x) = f(g(x)),
find fg(x) and gf(x).

Does fg(x) = gf(x) for all values of x?

Does fg(x) = gf(x) for any values of x?

Can you think of any f and g so that fg always equals gf?

Pick f so that the graph of y = f(x) is a straight line.

Can you find a straight line graph y = g(x)
so that fg always equals gf?
Can you interpret this geometrically?

If f(x) = $\frac{ax+1}{x+b}$ and g(x) = $\frac{cx+1}{x+d}$,
when does fg = gf?

Investigate other pairs of functions where fg = gf.

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