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Example: $f(x)=x+1$ and $g(x)=x^{2}$
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\begin{aligned}
& (f+g)(x)=f(x)+g(x) \quad(f+g)(x)=x+1+x^{2} \\
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(f+g)(x)=x+1+x^{2}
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$(f g)(x)=f(x) g(x)$
$(f g)(x)=(x+1)\left(x^{2}\right)$
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For $g(x) \neq 0$
We have already seen this operations before for polynomials.

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We are simply extending this idea to all functions.

