$$f(g(x)) = f'(g(x))g'(x) \quad \text{(four (4!) of these)}$$

$$\frac{d}{dx}f(g(x)) = f(g(x))g'(x)$$

$$f'(g(x)) = f'(g(x))g'(x)$$

$$\frac{d}{dx}f(g)' = f'g \cdot g'dx$$

$$f \circ g?$$

$$\frac{d}{dx}f(g(x)) = f'g(x) \cdot f(g(x))'$$

$$g(f'(x)) \to f(x)'gx + g'(x)f(x)$$

$$F'(G(x)) = G'(x)x'$$

$$f(g(x)) = f'(g(x)) + g'(f(x))$$

$$(f(g))' = f'g \cdot g'$$

$$\frac{d}{dx}f(g(x)) = f'g(x)g'(x)$$

$$\frac{d}{dx}f(g(x)) = \frac{d}{dx}f(g(x)) \cdot \frac{d}{dx}g(x) \cdot \frac{d}{dx}$$

$$\frac{d}{dx}f'(g(x)) = f'(x)g(x) + f(x)g'(x)$$

$$\frac{d}{dx}f(g(x)) = f'(g(x)) + g'(x)$$

$$\frac{d}{dx}f(g(x)) = f(g(x))g'(x)$$

Parentheses Problems + $\cdots$

$$f(g(x) = f'(g(x))(g'(x))$$

$f'(g(x)) = f'(g(x))g'(x)$
$f(g(x)) = f'g(x) + f(g(x)')$
$\frac{d}{dx}f(g(x) = f'(g(x))g'(x)$ (two of these)
$f(g(x))' = f'(g(x)g'(x)$ (two of these)
$\frac{d}{dx}f(gx) = f'(gx)g'x$
$f(g(x)' = f(g(x) \cdot g'(x)$
$\frac{d}{dx}f(g(x) = f'(g(x))g'(x)$ (two of these)
$f(gx) = f'(gx)g'x$
$[f(g(x)]' = f'(g(x)g'(x)$
$\frac{d}{dx}[f(g(x)] = f'(g(x)g'(x)$
$f(g(x)' = f('g(x))g'(x)$
$\frac{d}{dy}f(g(x) = f'g(x))g'(x)$
$\frac{d}{dx}f(gx) = f'(gx))g'(x)$ (two of these)
the chain rule of $f(g(x)) = f'(g(x)(g'x)$
$f(g(x))' = f'g(x)g'(x)$
$[f(g(x))]' = (f'g(x))g'(x)$
$f(gx)g'x$
$\frac{d}{dx}f(g(x) = f(x)'g(x) + g(x)'f(x)$
$f(g(x) = f'g(x) + f(g(x)')$
$\frac{d}{dx}fxy) = f(x)y' \cdot f(x)'y$