11. Tulon ja osamäärän derivaatta

$$D(f(x)\,g(x)) = f'(x)\,g(x) + f(x)\,g'(x) \qquad \text{TULON DERIVAATTA}$$

$$D\,\frac{f(x)}{g(x)} = \frac{f'(x)\,g(x) - f(x)\cdot g'(x)}{(g(x))^2} \qquad \text{OSAMÄÄRÄN —"—}$$

11.2 $h(x) = \underbrace{\tfrac{1}{5}x^6}_{f(x)} \cdot \underbrace{(5x - 2x^4)}_{g(x)}$

$$h'(x) = \underbrace{\tfrac{6}{5}x^5}_{f'(x)} \cdot \underbrace{(5x-2x^4)}_{g(x)} + \underbrace{\tfrac{1}{5}x^6}_{f(x)} \cdot \underbrace{(5-8x^3)}_{g'(x)}$$

$h'(-1) = \ldots = \underline{11}$

11.4 $f(x) = \dfrac{4x}{x^2-4}$

a) $f'(x) = \dfrac{4\cdot(x^2-4) - 4x\cdot 2x}{(x^2-4)^2}$

b) $f'(0) = \ldots = \underline{-1}$