

$$f(x) = \ln^3(\ln x) = (\ln(\ln(x)))^3$$

$$(f^n)' = n \cdot f^{n-1} \cdot f'$$

$$f'(x) = 3 (\ln(\ln x))^2 \cdot \frac{1}{\ln x} \cdot \frac{1}{x}$$

$$(m) f(x) = \frac{x^2 \cdot 2^{3x}}{e^{3x}} = x^2 \cdot \left(\frac{2}{e}\right)^{3x}$$

$$f'(x) = \underset{\uparrow}{2x} \cdot \left(\frac{2}{e}\right)^{3x} + \underset{\uparrow}{x^2} \cdot \left(\frac{2}{e}\right)^{3x} \cdot \ln\left(\frac{2}{e}\right) \cdot 3$$

$$= x \cdot \left(\frac{2}{e}\right)^{3x} \left[2 + x \cdot \ln\left(\frac{2}{e}\right) \cdot 3 \right]$$

$$(n) f(x) = \frac{3}{\sqrt{5-4x^3}} = 3(5-4x^3)^{-1/2}$$

$$f'(x) = 3 \cdot \left(-\frac{1}{2}\right) (5-4x^3)^{-1/2-1} \cdot (-12x^2)$$

$$= -\frac{3}{2} \cdot (5-4x^3)^{-3/2} \cdot (-12x^2)$$

$$= +\frac{36}{2} x^2 \cdot \frac{1}{\sqrt{(5-4x^3)^3}}$$

$$= \frac{18x^2}{\sqrt{(5-4x^3)^3}} = \frac{18x^2}{(5-4x^3)\sqrt{5-4x^3}}$$