

Practice Problems — 02/18/05

(1) Compute $\frac{d}{dx} [e^{e^x}]$.

(2) Compute $\frac{d}{dx} [x^x]$.

(3) Compute $\frac{d}{dx} [\arcsin(x)]$.

(4) Compute $\frac{d}{dx} [\log(\log(x))]$.

(5) Compute $\frac{d}{dx} [\sqrt[3]{x^3 + \sin(x)}]$.

(6) Compute $\frac{d}{dx} [\cos(x + \sin(x))]$.

(7) Compute $\frac{d}{dx} [\tan^2(3x)]$.

(8) Compute $\frac{d}{dx} \left[\frac{x}{\sqrt{x^2 + 1}} \right]$.

(9) Compute $\frac{d}{dx} [e^{-x^2+1}]$.

(10) Find all local maxima/minima of the function $f(x) = e^{-x^2+1}$.