

○ *PROBLEM 1* : Differentiate $y = x^x$.

○ *PROBLEM 2* : Differentiate $y = x^{(e^x)}$.

○ *PROBLEM 3* : Differentiate $y = (3x^2 + 5)^{1/x}$

○ *PROBLEM 4* : Differentiate $y = (\sin x)^{x^3}$.

○ *PROBLEM 5* : Differentiate $y = 7x(\cos x)^{x/2}$.