

- *PROBLEM 1* : Differentiate $y = 7xe^{x^2}$.

- *PROBLEM 2* : Differentiate $f(x) = (x + 8)^4 \sec(3x)$.

- *PROBLEM 3* : Differentiate $y = 2^{3x+1} \ln(5x - 11)$.

- *PROBLEM 4* : Differentiate $y = x^2 \sin^3(5x)$.

- *PROBLEM 5* : Differentiate $y = (x^3 - 7x^2)^4(1 + 9x)^{\frac{1}{2}}$.

- *PROBLEM 6* : Differentiate $y = \sec^2(x^4) \tan^3(x^4)$.