

NAME: _____ ID: _____

Exercise 1. Let $f(x) = \sin 2x + \cos 3x$.

(a) Find f' , f'' , $f^{(3)}$, $f^{(4)}$

(b) Find $f^{(102)}$.

Exercise 2. Let $y = x^{\ln x}$.

(a) Use logarithmic differentiation to find y'

(b) Find $y'(e)$