The Differential Of Some Function

Work made by Koposov D. E.
Moscow Institute Of Physics and Technologies

1) Original function:

$$f(x) = \cos(\sin(3 * x)) + (10 + 20 + 30) * x^2$$

2) Derivative:

$$f'(x) = (0 * x + 3 * 1) * \cos(3 * x) * (-\sin(\sin(3 * x))) + (0 + 0 + 0) * x^2 +$$

3) After the first optimization:

$$f'(x) = (0 * x + 3) * \cos(3 * x) * (-\sin(\sin(3 * x))) + 0 * x^2 + 60 * 2 * x$$

4) This function has already been optimized twice:

$$f'(x) = 3 * \cos(3 * x) * (-\sin(\sin(3 * x))) + 60 * 2 * x$$

References:

1) *Kernighan B., Ritchie D.* The C Programming Language (second edition)
2) *Knuth D.E.* The Art of Computer Programming
3) *Lvovsky S.M.* Set and layout of the system LATEX