

FEBRUARY 27: DAILY VITAMIN

This daily vitamin will give you an opportunity to practice some of the concepts and/or calculations presented during class. The daily vitamin is not compulsory and won't be graded but remember: **if you take your vitamins, you'll be stronger for it!**

1. Using the Rules of Differentiation, compute $f'(x)$, the derivative function.

(a) $f(x) = 5x + 1$,

(b) $f(x) = x^{10} - 5x^3 + 7x$,

(c) $f(x) = 10x^{2019} - 2019x^{10}$.

Solution:

2. Find two functions $f(x), g(x)$ satisfying $(f(x)g(x))' \neq f'(x)g'(x)$. Be sure to verify your answer.

Solution:

3. Use the Binomial Theorem to expand the expression.

(a) $(x + 1)^8$

(b) $(x - 2)^5$

(c) $(2x + 3)^3$