1 Introduction

$CrInGeCrInGeProduction.Supercringeintroductionhere :$

2 Some basic knowledge about researching problem...

Parameters and constants we use in this work:

Constants (3):

e = 2.718282

pi = 3.141593

AbObA = 1337.228690

Variables (3):

a = 3.141500

kek = 13.000000

x = 1.000000

Parameters of exploration :

Number of differentiates : 0

Macloren's accuracy : 0

Tanget point : 0.200000

Delta coverage of tangent point: 2.500000

Graph diapasone : $[-1 : 15]$

So let's calculate smth with a given function: f(a, kek, x) = $\cos\left(a + \frac{kek}{1.000^{AbObA}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln e)} - 0.000)\right)$

Firstly, let's insert all constants: f(a, kek, x) = $\cos\left(a + \frac{kek}{1.000^{1337.229}}\right) + \ln\left(1.000 + x \cdot kek \cdot (1.000^{(\ln 2.718)} - 0.000)\right)$

And simplify this expression (if possible): f(a, kek, x) = $\cos(a + kek) + \ln(1.000 + x \cdot kek)$

3 Exploration the expression as a function of multiple variables

Calculation value of function in the point   BRITISH SCIENTISTS WERE SHOCKED, WHEN THEY COUNT IT!!!

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ **it's value** = 1.73157

Personally, I've always thought about first derivation of something like that function... Haven't you?

But now, by using informatics and math skills I feel that I'm prepared enough to calculate it!

`1 step:` Finding a derivation of kek

When I was child, my father always told me: "Remember, son:

$(kek)' =$

$= 1.000$

`2 step:` Finding a derivation of x

What if:

$(x)' =$

$= 1.000$

`3 step:` Finding a derivation of $x \cdot kek$

It's really easy to find:

$(x \cdot kek)' =$

$= kek + x$

`4 step:` Finding a derivation of 1.000

Sounds logical that it is the same as:

$(1.000)' =$ **... = [top secret] = ...** $=$

$= 0.000$

`5 step:` Finding a derivation of $1.000 + x \cdot kek$

What if:

$(1.000 + x \cdot kek)' =$

$= kek + x$

`6 step:` Finding a derivation of $\ln(1.000 + x \cdot kek)$

Sounds logical that it is the same as:

$(\ln(1.000 + x \cdot kek))' =$

$= \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$

`7 step:` Finding a derivation of kek

Even my two-aged sister knows that:

$(kek)' =$

$= 1.000$

`8 step:` Finding a derivation of a

If someone asked me that in the middle of the night, I wouldn't hesitate to say:

$(a)' =$

$= 1.000$

`9 step:` Finding a derivation of $a + kek$

My roommate mumbled it in his sleep all night:

$(a + kek)' =$ **... = [top secret] = ...** $=$

$= 2.000$

`10 step:` Finding a derivation of $\cos(a + kek)$

Man... Just look:

$(\cos(a + kek))' =$

$= 2.000 \cdot (-1.000) \cdot \sin(a + kek)$

`11 step:` Finding a derivation of $\cos(a + kek) + \ln(1.000 + x \cdot kek)$

I was asked not to tell anyone that:

$(\cos(a + kek) + \ln(1.000 + x \cdot kek))' =$

$= 2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$

Congratulations! **The first derivation of the expression** is:

f'(a, kek, x) = $2.000 \cdot (-1.000) \cdot \sin(a + kek) + \frac{1.000}{1.000 + x \cdot kek} \cdot (kek + x)$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 1.84017

Finding the 0 derivation   **Finally... The 0 derivation of the expression:**

$f^{(0)}$(a, kek, x) = $\cos(a + kek) + \ln(1.000 + x \cdot kek)$

BRITISH SCIENTISTS WERE SHOCKED AGAIN, WHEN THEY COUNT THE 0 DERIVATION OF THIS EXPRESSION!!!

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 1.73157

Finding partical derivations Partial derivation of the expression on the variable a:

$\frac{\partial f}{\partial a} = (-1.000) \cdot \sin(a + 13.000)$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.42008 !!!

Partial derivation of the expression on the variable kek:

$\frac{\partial f}{\partial kek} = (-1.000) \cdot \sin(3.142 + kek) + \frac{1.000}{1.000 + kek}$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.49151 !!!

Partial derivation of the expression on the variable x:

$\frac{\partial f}{\partial x} = 13.000 \cdot \frac{1.000}{1.000 + 13.000 \cdot x}$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 0.92857 !!!

Finding full derivation Full derivation:

$$\sqrt{((-1.000) \cdot \sin(a + 13.000))^{2.000} + ((-1.000) \cdot \sin(3.142 + kek) + \frac{1.000}{1.000 + kek})^{2.000} + (13.000 \cdot \frac{1.000}{1.000 + 13.000 \cdot x})^{2.000}}$$

In the point $M_0(a_0, kek_0, x_0) = (3.142, 13.000, 1.000)$ it's value = 1.13150 !!!
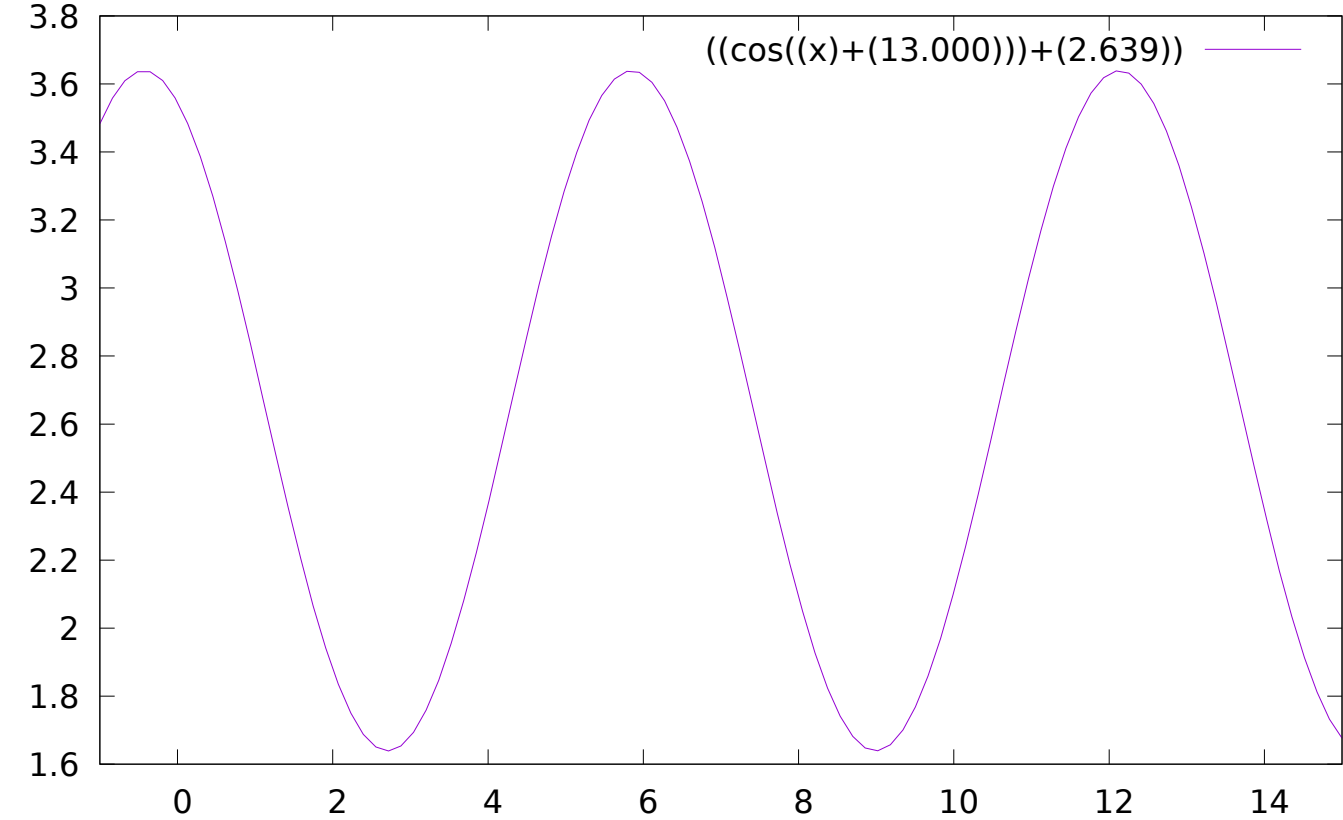
4 Exploration the expression as a function of the first variable

Now let's consider the expression as a function of the first variable a: $f(a) = \cos(a + 13.000) + 2.639$

Decomposing on Macloren's formula Maklorens formula for $a \to a_0 = 3.142$:

$f(a) = 1.732 + o(1.000)$

Graphics Graph $f(a) = \cos(a + 13.000) + 2.639$ on the diapasone $a \in [-1 : 15]$:

Equations in the point **Tangent equation** in the point $a_0 = 0.200$:

$f(a) = (-0.592) \cdot (a - 0.200) + 3.445$

Normal equation in the point $a_0 = 0.200$:

$f(a) = 1.689 \cdot (a - 0.200) + 3.445$

Their graphs in $\delta = 2.50000$ coverage of the point $a_0 = 0.200000$